

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

RECOMMENDED DECISION BY
ADMINISTRATIVE LAW JUDGE JOEL A. LINSIDER

CASE 98-C-1357 - Proceeding on Motion of the Commission to
Examine New York Telephone Company's Rates for
Unbundled Network Elements.

NOTICE OF SCHEDULE FOR FILING EXCEPTIONS

(Issued May 16, 2001)

Attached is the Recommended Decision of Administrative Law Judge Joel A. Linsider in Module 3 of this proceeding, together with a copy of the Commission's rules governing the procedures to be followed. Briefs on exceptions will be due in hand to the undersigned and all active parties on June 11, 2001 and briefs opposing exceptions will be due in hand to the undersigned and may be mailed to all active parties on June 29, 2001. Each party will be allowed a total of 200 pages for its brief and reply brief, to be allocated between the two briefs at the party's discretion.

JANET HAND DEIXLER
Secretary

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 98-C-1357 - Proceeding on Motion of the Commission to
Examine New York Telephone Company's Rates for
Unbundled Network Elements.

RECOMMENDED DECISION ON MODULE 3 ISSUES

BY

ADMINISTRATIVE LAW JUDGE JOEL A. LINSIDER

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STATE OF NEW YORK
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APPEARANCES: See Appendix A

JOEL A. LINSIDER, Administrative Law Judge:

INTRODUCTION AND PROCEDURAL HISTORY

In September 1998, the Commission announced its intention to undertake, beginning in January 1999, a comprehensive reexamination of the unbundled network element (UNE) rates of Verizon New York Inc. f/k/a Bell Atlantic-New York,¹ as set in the First Network Elements Proceeding. (That case is referred to as "the First Elements Proceeding" or, simply, "the First Proceeding.")² This ensuing case has had a

¹ Cases 95-C-0657 et al., First Network Elements Proceeding, Order Denying Motion to Reopen Phase 1 and Instituting New Proceeding (issued September 30, 1998). Except where clarity otherwise requires, Verizon is referred to as such throughout this recommended decision, even in references to matters that predate the name.

² The First Elements Proceeding comprised four phases, designated "Resale" and Phases 1, 2, and 3, as follows. Resale: Opinion No. 96-30 (issued November 27, 1996). Phase 1 (network elements generally): Opinion No. 97-2 (issued April 1, 1997); rehearing, Opinion No. 97-14 (issued September 22, 1997). Phase 2 (primarily Operations Support Systems and Nonrecurring Charges): Opinion No. 97-19 (issued December 22, 1997); rehearing, Opinion No. 98-13 (issued June 8, 1998). Phase 3 (various issues, including collocation): Opinion No. 99-4 (issued February 22, 1999); rehearing, Opinion No. 99-9 (issued July 26, 1999). The phases and their opinions are referred to as "Phase 1," "Phase 2 Rehearing Opinion," etc., without further specification.

long and complex procedural history, including various interim measures and extensions of deadlines in response to pertinent federal court decisions. Only the broad outlines of that history will be recounted here; further details will be set forth as needed in the context of specific issues to which they may be pertinent.

On the basis of an initial collaborative process facilitated by Department of Public Service Staff, the proceeding was divided into three modules: Directory Database (DDB); Collocation; and Unbundled Network Elements (UNEs) generally.³ The first two modules culminated in Commission decisions issued during the first half of last year.⁴ During the course of the proceeding, special expedited tracks were established for consideration of certain digital subscriber line (DSL) rates and line sharing rates; those, too, have been concluded.⁵ In several instances, described below, issues raised in those earlier modules and tracks gave rise to matters considered further here.

Initial testimony in Module 3 was originally scheduled to be filed in December 1999, with hearings to begin in February 2000. For a variety of reasons, including the broad scope of the proceeding, the need to take account of actions by the FCC and of a federal court decision, and the strike by Verizon employees during August 2000, that schedule was extended on

³ Case 98-C-1357, Ruling on Scope and Schedule (issued June 10, 1999).

⁴ Module 1 (DDB): Case 98-C-1357, Opinion No. 00-2 (issued February 8, 2000); Order on Petitions for Rehearing (issued June 29, 2000). Module 2 (Collocation): Case 98-C-1357, Opinion No. 00-8 (issued June 1, 2000); Order Denying Petitions for Rehearing of Opinion No. 00-08 (issued January 4, 2001).

⁵ DSL: Case 98-C-1357, Opinion No. 99-12 (issued December 17, 1999); Order Denying Petitions for Rehearing (March 17, 2000). Line Sharing: Case 98-C-1357, Opinion No. 00-7 (issued May 26, 2000); Order Denying Petition for Rehearing (issued October 3, 2000).

several occasions, and hearings were ultimately held in December 2000. The only one of these factors that warrants specific note here is the decision of the United States Court of Appeals for the Eighth Circuit to vacate 47 C.F.R §51.505(b)(1), a portion of the FCC's rules central to the requirement that UNEs be costed and priced on the basis of Total Element Long-Run Incremental Cost (TELRIC).⁶ (That decision is now stayed pending Supreme Court review; these matters are discussed further in the next section.)

In view of the Eighth Circuit's ruling and the uncertainty it was said to create with regard to the proper costing standard, Verizon urged suspension of the proceeding. All other parties opposed any suspension; they questioned, among other things, the import of the court's decision in jurisdictions beyond the Eighth Circuit and argued (contrary to Verizon's view) that Verizon in any event remained bound to TELRIC pricing by conditions imposed by the FCC in approving the merger of its predecessor companies.⁷ I declined to suspend the proceeding, citing "(1) the time it likely will take for [the] uncertainties to be resolved, (2) the effect of the FCC's merger conditions^[8] during that interval, and (3) the Eighth Circuit's sustaining of forward-looking pricing [as a matter of principle, despite its rejection of the specific version of forward-looking pricing embodied in the rule it had vacated]."⁹ I recognized, however, the possible need to reexamine the course of the proceeding in the event circumstances changed.

⁶ Iowa Utilities Bd. et al. v. FCC, 219 F.3d 744(8th Cir. 2000).

⁷ CC Docket No. 98-184, GTE Corporation and Bell Atlantic Corporation, Memorandum Opinion and Order (rel. June 16, 2000), FCC 00-221 (GTE/BA Order).

⁸ This referred to conditions imposed by the FCC on the NYNEX/Bell Atlantic merger as well as the Bell Atlantic/GTE merger just noted.

⁹ Case 98-C-1357, Ruling on Module 3 Schedule (issued August 24, 2000), p. 7.

Verizon sought reconsideration of that ruling, in part on the grounds that the FCC had recently construed its earlier order approving the NYNEX/Bell Atlantic merger in a manner assertedly suggesting that the Bell Atlantic/GTE Order likewise did not require TELRIC pricing as a merger condition.¹⁰ I declined to reconsider, noting the significant difference in wording between the two merger orders and seeing no need to change my conclusion that "what the [Bell Atlantic/GTE] order means may ultimately be a matter for the FCC and the courts to decide, but for present purposes [it] provides an adequate basis for concluding that Verizon remains obligated, notwithstanding the Eighth Circuit's decision, to continue pricing UNEs on a TELRIC basis and will remain so obligated at least until the Eighth Circuit's decision is sustained or becomes non-appealable."¹¹ The proceeding went forward on that basis.

Initial testimony was filed (on February 7, 2000 and, with respect to some issues, on February 22, 2000¹²) by Verizon, jointly by AT&T and WorldCom, Inc., jointly by Covad Communications Company and Rhythms Links Inc., and by FairPoint Communications Corp. Responsive testimony, due June 26, 2000, was filed by Verizon, AT&T (alone), WorldCom (alone), AT&T/WorldCom (jointly), Rhythms/Covad (jointly), the CLEC

¹⁰ Verizon cited the FCC's dismissal of complaints that Verizon had violated such a commitment made in connection with the NYNEX/Bell Atlantic merger. File No. E-98-05, AT&T Corporation v. Bell Atlantic Corporation, and File No. E-98-12, MCI Telecommunications Corporation et al. v. Bell Atlantic Corporation, Memorandum Opinion and Order (rel. August 18, 2000).

¹¹ Case 98-C-1357, Ruling Denying Request for Reconsideration (issued September 18, 2000), p. 4. The FCC staff has since stated its view that the merger condition has this effect. Letter from Dorothy T. Attwood, Chief, Common Carrier Bureau, to Michael Glover, Verizon Communications, Inc. (September 22, 2000).

¹² Portions of the February 22 testimony were admitted as part of the line sharing track previously referred to.

Coalition,¹³ the CLEC Alliance,¹⁴ Z-Tel Communications, Inc., Cablevision Lightpath, Inc., the Cable Television and Telecommunications Association of New York, Inc. (CTTANY), and the United States Department of Defense and all Federal Executive Agencies (Federal Agencies). Rebuttal testimony, due October 19, 2000, was filed by Verizon, AT&T/WorldCom, Rhythms/Covad, the CLEC Coalition, FairPoint, and DOD/FEA. In addition to these principal filings, supplemental or supplemental responsive or rebuttal testimony on particular issues was submitted by Verizon (May 23, September 11, September 25, November 8, November 22, and December 5), Rhythms/Covad (November 13), and CTTANY (November 29). The use made of electronic information transfer among parties in this proceeding is noteworthy and contributed greatly to the efficient development of the record; among other things, the very extensive evidence submitted by Verizon and by AT&T/WorldCom was posted on websites from which it could be downloaded (with passwords required for proprietary information).

An attorneys' prehearing conference was held in New York City on November 30, 2000 for the purpose of introducing pre-filed testimony into the record via affidavit, subject to later cross-examination of witnesses as to whom cross had not been waived. Hearings were held in Albany on December 7, 8, 12, 13, 15, 19, and 20,¹⁵ and an on-the-record post-hearing attorneys' teleconference was held on December 21. Following the hearings, Staff of the Department of Public Service posed a

¹³ The CLEC Coalition comprises Allegiance Telecom of New York, Inc.; Intermedia Communications Inc; and NEXTLINK New York, Inc.

¹⁴ The CLEC Alliance comprises CoreComm New York, Inc.; CTSI, Inc.; Mpower Communications, Inc.; Network Plus, Inc.; RCN Telecom Services, Inc.; and Vitts Networks, Inc.

¹⁵ The parties demonstrated creativity and mutual consideration in devising a schedule that permitted witnesses to plan on appearing on specific days and otherwise structured the complex proceeding in a manner convenient to all.

series of questions to Verizon and AT&T; their responses have been admitted as exhibits 457 and 458 respectively.

The record comprises 4,954 pages of stenographic transcript (numbered 1,150-6,103) and 159 exhibits (numbered 301-459).¹⁶ The following pages of the transcript have been provisionally designated as proprietary: 1620-1877 (public version at 1362-1617), 2067-2216 (public version at 1917-2065), 3110-3189 (public version at 2832-2911), 3813-3958 (public version at 3666-3811), 3984-4008 (public version at 4009-4032), 4059-4135 (public version at 4137-4204A), 4255-4302 (public version at 4206-4253), 4432-4453 (public version at 4456-4476), 4558-4576 (public version at 4541-4557). Provisionally proprietary exhibits are 317P, 320P, 324P, 326P, 328P, 330P, 333P, 339P, 358P, 367P, 370P, 375P, 381P-389P, 392P, 411P, 412P, 414P, 417P, 418P, 448P, 453P, and 455P. My ruling on the final status of the provisionally protected material is pending.

Initial briefs, due February 16, 2001, were filed by Verizon, AT&T, CTTANY, Lightpath, the CLEC Alliance, the CLEC Coalition, the Federal Agencies, FairPoint, Rhythms/Covad, and Z-Tel. Reply briefs, due March 14, 2001, were filed by those parties except for Z-Tel.

This recommended decision considers all issues except those related to conduit rentals. Conduit rentals will be the subject of a supplemental recommended decision.

LEGAL CONTEXT; THE STATUS OF TELRIC

This case, like the First Elements Proceeding, has been litigated on the basis of the Federal Communications Commission's total element long-run incremental cost (TELRIC) standard despite the legal cloud cast over the standard by a federal court decision. Because of the importance of the standard, its background, nature, and current status warrant review.

¹⁶ Exhibit 459, Verizon's supplemental response to interrogatory CTTANY-VZ-52, has not previously been formally admitted; I hereby admit it.

Under §252(d)(1) of the Telecommunications Act of 1996 (the 1996 Act),

Determinations by a State commission of the just and reasonable rate ... for network elements ...--

(A) shall be--

(i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the ... network element... and

(ii) nondiscriminatory, and

(B) may include a reasonable profit.

In its regulations and order implementing the 1996 Act,¹⁷ the FCC determined that these pricing provisions should be carried out by setting prices on the basis of each element's TELRIC, along with a reasonable allocation of forward-looking common costs.

The New York Commission in Phase 1 of the First Elements Proceeding described TELRIC in the context of other costing methods.¹⁸ It noted that TELRIC was a term coined by the FCC to describe the version it was adopting of the more familiar total service long-run incremental cost (TSLRIC) method. An analysis of TSLRIC amounts to an estimation of long-run incremental cost (LRIC) where the increment of service that is studied is the total demand for the service. LRIC, in turn, measures incremental cost (i.e., the cost of producing an additional quantity of a good or service) over a period long

¹⁷ Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, CC Docket Nos. 96-98 and 95-105, First Report and Order (rel. August 8, 1996)(the Local Competition Order).

¹⁸ Phase 1 Opinion, pp. 9-15.

enough so that all of the firm's costs become variable or avoidable.

All of the foregoing costing methods are forward-looking, taking account of the costs to be incurred in the future, rather of than embedded, historical costs. In defining the TELRIC method, the FCC added the specification that costs "should be measured based on the use of the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent [local exchange carrier's] wire centers."¹⁹ This is the so-called "scorched node" premise, which takes as a given only the location of the incumbent local exchange carrier's [LEC's] existing wire centers and otherwise contemplates a network designed in accordance with the most efficient technology available, regardless of the technology actually deployed. It has generated considerable controversy, much of it more heated than illuminating, over the legality and wisdom of setting UNE rates on the basis of "hypothetical," or, even, "fantasy" networks.

After the start of the First Proceeding, the FCC's TELRIC rules were stayed and ultimately vacated by the Eighth Circuit Court of Appeals on the grounds that the FCC had exceeded its authority in adopting them.²⁰ The case nonetheless proceeded to decision on a TELRIC basis, inasmuch as all parties' studies had been based on TELRIC; even Verizon, which objected to TELRIC and reserved its rights to submit other studies if TELRIC were overturned, had submitted a TELRIC study in view of the FCC's regulations. The Commission noted that "TELRIC is certainly a reasonable approach to use, though just as certainly not the only one; and, as [Verizon] recognizes, as a practical matter there is no alternative other than the very

¹⁹ 47 C.F.R. §51.505(b)(1).

²⁰ Iowa Utilities Bd. v. FCC, 120 F.3d 753 (8th Cir. 1997).

unattractive one of temporary rates while a lengthy new case is litigated."²¹

The United States Supreme Court eventually reversed the Eighth Circuit on the issue of FCC authority, reinstated the rules, and remanded for consideration of the substantive challenges that had been raised to TELRIC pricing.²² That remand eventuated in an Eighth Circuit decision that again overturned portions of the FCC's rules, including the TELRIC definition in §51.505(b)(1), cited above, this time on the grounds that it was inconsistent with the provisions of the 1996 Act requiring UNE prices to be based on the cost of providing the elements. In the Eighth Circuit's judgment, "Congress was dealing with reality, not fantasizing about what might be," and basing prices on the hypothetical network of TELRIC violated Congress's intent that the costs to be taken into account are those of "providing the actual facilities and equipment that will be used by the competitor (and not some state of the art presently available technology ideally configured but neither deployed by the ILEC nor to be used by the competitor)."²³ The Eighth Circuit added, however, that it did not reject the use of forward-looking costs in the setting of UNE rates; and it declined to reach the claim that TELRIC rates would amount to an unconstitutional taking of the ILEC's property, regarding that claim as unripe for decision until actual rates could be evaluated. The Supreme Court has agreed to review the Eighth Circuit's determination, and the TELRIC rule at issue remains in effect pending that review.

Following the Eighth Circuit's decision last summer, Verizon moved to stay the proceeding in view of the uncertainty over the costing standard that would ultimately apply; CLECs generally opposed the motion. As recounted above, I denied the motion and its later renewal, and the proceeding went forward on a TELRIC basis.

²¹ Phase 1 Opinion, p. 15.

²² AT&T Corp. v. Iowa Utilities Bd., 525 U.S. 366 (1999).

²³ Iowa Utilities Bd. v. FCC, 219 F.3d 744 (8th Cir. 2000).

At case end, Verizon continues to stress the uncertainty associated with the TELRIC standard pending Supreme Court review. It contends that the existing rates are reasonable, TELRIC-based, and pro-competitive (indeed, that many are too low), and it asks the Commission to forbear from setting new UNE rates until the applicable standard is clarified by the Supreme Court and parties have had the opportunity to submit new (presumably non-TELRIC) studies if warranted by the Supreme Court's decision. Other parties, once again, favor having the case decided.

I see no more need now to recommend deferral of a decision than I did earlier to cut off the litigation. The TELRIC rules remain in force, and the proceeding has gone forward on a TELRIC basis; the Supreme Court's decision cannot be predicted and is unlikely to be rendered before the end of the year at the earliest; and the issues in the case are ripe for decision. That decisional process should go forward.

One further aspect of the TELRIC background should be briefly noted. Section 254 of the 1996 Act directed the FCC to establish a universal service support system to ensure the delivery of affordable telecommunications services. In the ensuing proceeding (the Universal Service Proceeding), the FCC ultimately adopted a forward-looking cost model to be used in determining an eligible carrier's level of universal service support. The FCC adopted its cost model in two stages: in the first stage, it adopted the Model Platform, which contains the fixed aspects of the model²⁴; in the second stage, it selected the input values for the Model Platform.²⁵ Parties occasionally cite the FCC's Universal Service Proceeding determinations, and the presentations and analysis there are sometimes instructive; but it is important to keep in mind the FCC's caution that its model "was developed for the purpose of determining federal

²⁴ Federal-State Joint Board on Universal Service et al., CC Docket Nos. 96-45, 97-160, Fifth Report and Order (rel. October 28, 1998).

²⁵ Id., Tenth Report and Order, (rel. November 2, 1999).

universal service support, and it may not be appropriate to use nationwide values for other purposes, such as determining prices for unbundled network elements."²⁶

OVERVIEW OF PARTIES' POSITIONS

To convey a general sense of the issues to be dealt with in this proceeding, this section of the Recommended Decision describes without comment the overall contours of each party's position. Points referred to here will be treated in greater detail below.²⁷

Verizon

As already noted, Verizon's primary recommendation is that the Commission forbear from setting new rates now given the uncertain standing of the TELRIC method for analyzing costs. Short of that, it would have the Commission set new rates on the basis of its studies, which are said to be forward-looking (but not speculative or based on "fantasy networks"), grounded in actual data derived from Verizon's records, transparent, fully documented, and compliant with TELRIC. (Despite that compliance with TELRIC, Verizon reserves its objections to that method, expressing agreement with the Eighth Circuit that TELRIC is "unlawful and inappropriate.") In contrast to its own studies, the costing model sponsored by AT&T and WorldCom continues to suffer, according to Verizon, from flaws associated with its predecessor Hatfield Model, as described by the Commission in Phase 1 of the First Proceeding.

Referring to what it calls the "scare campaign in which AT&T has blamed regulators for its own business failures and has threatened to exit the market if its demands for UNE rate reductions are not met," Verizon attributes AT&T's difficulties to matters other than UNE rates and notes, in any

²⁶ Id., ¶32.

²⁷ Arguments made by more than one party are not necessarily attributed to all parties making them, but all briefs have been fully considered.

event, that the Commission's task is to protect competition, not competitors.²⁸ It argues as well that true competition must be facilities-based and that artificially low UNE rates "will only prolong the CLECs' counterproductive use of--as opposed to interconnection with--Verizon's network."²⁹ It insists that

the Commission's goal in this proceeding should not simply be to reduce rates, or to artificially stimulate any and all competitive entry. Rather, the Commission should seek to provide appropriate incentives for true facilities-based competition by avoiding any understatement of UNE costs. Verizon's studies provide the best basis for achieving that objective."³⁰

AT&T

Jointly with WorldCom, AT&T sponsored a costing model known as HAI 5.2-NY (HAI Model). The model, described in greater detail below, is a successor to the Hatfield Model sponsored by AT&T and WorldCom (then MCI) in the First Elements Proceeding. AT&T identifies two ways in which the Commission can set proper rates in this proceeding: either by starting with Verizon's cost study and substantially adjusting it in accordance with AT&T's proposals, or by using the HAI study as the basis for rate setting. Recognizing that no party's cost calculations will reflect absolute mathematical certainty, AT&T contends that the two approaches it advocates--the Verizon studies properly adjusted and the HAI Model results--tend to produce results that converge.³¹

AT&T devotes considerable attention to the broader context in which UNE rates must be set. It contends that

²⁸ Verizon's Initial Brief, p. 3.

²⁹ Id.

³⁰ Id., p. 34 (emphasis in original).

³¹ AT&T notes in this regard that the Commission's decision in Phase I grew out of what the Commission found to be the convergence between the Hatfield Model and Verizon's studies when the inputs to each were properly adjusted.

competition in New York's local telephone markets is limited and fragile and will be undermined by UNE rates that exceed their costs and permit Verizon to extract excessive revenues from local market entrants, to the detriment of customers for both local and long distance service. It argues that UNE price increases could be justified here only if the prices set in the First Proceeding were erroneously low or if the underlying costs had increased since 1997; according to AT&T, neither of these is the case. The first premise, it contends, is undermined by Verizon's robust financial performance in recent years, while the second is belied by generally declining costs in the telecommunications industry. On the contrary, it sees a need for immediate reduction in existing UNE rates.

AT&T charges that the evidence in the case shows, among other things, that Verizon's existing loop rates exceed forward-looking costs by about \$7.70 per month in Manhattan and about \$6.60 per month in the major cities rate zone³² and that switching rates exceed forward-looking economic costs by at least 70%. It is not surprised by the statement of Verizon's co-chief executive that "'whoever is buying'" AT&T's basic local service package 'knows they're not making any money on it.'"³³ AT&T contends that Verizon recognizes that the local exchange telecommunications business in New York cannot be profitable for CLECs under Verizon's existing UNE rates but that it nevertheless proposes substantial increases in those rates.

AT&T attributes Verizon's aggressiveness in seeking increased UNE rates to its having "eaten the carrot" of FCC approval under §271 of the 1996 Act for its entry into the long distance market. Even before that approval had been granted, it maintains, Verizon cooperated only grudgingly in efforts to erode its local market dominance, but the granting of §271 approval accounts for Verizon's now "unconstrained

³² Loop rates are deaveraged into three zones: Manhattan, major cities, and the rest of the state.

³³ AT&T's Initial Brief, p. 2, citing a newspaper article that so quotes the Verizon officer (emphasis added by AT&T).

aggressiveness"³⁴ in proposing in this case methodological innovations that tend to increase its calculated UNE costs.

CLEC Alliance

The CLEC Alliance likewise sees no basis for increased UNE rates, citing Verizon's robust finances and denying any cost increases since 1997. Contending that the existing rates are too high, it warns that any increase would have a substantial negative effect on competition, noting recent bankruptcies and lesser financial problems of various CLECs. It asserts that the purpose of TELRIC is to overcome barriers to market entry by preventing the ILEC from recovering all costs associated with its existing monopoly network, and it argues as well that because the ILECs have greater access to the pertinent cost information, they bear the burden of proving the nature and magnitude of the forward-looking costs they seek to recover. The CLEC Alliance denies that Verizon has sustained that burden of proof, contending that the large volume of material submitted by Verizon is "next to useless for purposes of conducting a detailed examination and analysis."³⁵ It charges that Verizon has continued the use of assumptions rejected by the Commission in the First Proceeding and changed other assumptions without explaining why.

Disputing any suggestion that Congress intended UNE-based competition as a mere transition to facilities-based competition, the CLEC Alliance contends that the main point of the 1996 Act is to lower entry barriers to competition of all sorts. It asserts that even under existing UNE rates, facilities-based competition exceeds UNE-based competition by nearly five to one, but that local competition remains generally "a fragile patchwork concentrated in small niches and submarkets."³⁶

³⁴ Id., p. 8.

³⁵ CLEC Alliance's Initial Brief, p. 7.

³⁶ CLEC Alliance's Reply Brief, pp. 6-7.

In support of its positions, the CLEC Alliance presented a comprehensive study of Verizon's costs and critique of its proposals, prepared by QSI Consulting.³⁷ It suggests rates could properly be set on the basis of Verizon's studies as adjusted by QSI.

CLEC Coalition

The CLEC Coalition maintains that even though regulators have held the New York market to meet the minimum standards of §271 of the 1996 Act, the market cannot be considered competitive "in any true sense".³⁸ It cites Verizon's continued market power and the consequent need for continued regulatory oversight, including with respect to UNE rates.

The CLEC Coalition directs most of its attention to Verizon's method for estimating expenses. It contends that even if Verizon's basic method is sustained, proper adjustments to make its expense factors more forward-looking would show its proposed rates to be inconsistent with TELRIC. It characterizes its own adjustments as a starting point to which those advocated by other parties should be added.

WorldCom

In an introductory section of its brief captioned "The Battle of New York," WorldCom maintains that "competition in the local exchange market in New York is at a critical crossroads."³⁹ Like AT&T, it asserts that Verizon is attempting to increase the rates for network elements in order to exacerbate the price squeeze applied to actual and would be UNE-based competitors. It, too, cites Verizon's co-CEO's statement that UNE-based competitors are not making any money, and it warns that "unless unbundled networking elements are significantly reduced to reflect true economic cost, so that meaningful profits can be

³⁷ Exhibits 355-357, 358P, and 359.

³⁸ CLEC Coalition's Initial Brief, p. 2.

³⁹ WorldCom's Initial Brief, p. 2.

earned, local competition in New York is not sustainable."⁴⁰ It asserts that costs, if anything, have fallen since UNE-rates were last set; that Verizon's having secured §271 approval has given it an added incentive to impose a price squeeze on competing carriers, and that the methodological refinements to which Verizon attributes much of its proposed increase in rates are abusive, distorting, or contrary to TELRIC. It charges generally that Verizon's studies are based on embedded costs and current labor times and thereby attempt to recover the costs associated with its inefficient current operations. TELRIC pricing, it continues, required that these embedded inefficiencies be eliminated and, beyond that, that additional forward-looking adjustments be made to fully capture the savings associated with advanced technology.⁴¹ In view of the cost savings associated with next-generation networks, MCI urges that the Commission "substantially reduce Verizon's proposed cost recovery, rather than merely tinkering with or providing token one-time adjustments to current embedded costs."⁴² It defends UNE-based competition, disputing Verizon's emphasis on facilities-based competition, and contends New York's UNE rates exceed those in other pro-competitive states.

WorldCom devotes its briefs to critiquing Verizon's studies. It does not discuss in any detail the HAI study it co-sponsored with AT&T, stating only that "AT&T's Initial Brief fully explores the relevant issues concerning the [HAI] cost study and demonstrates that it accurately identifies Verizon's forward-looking economic costs to provide [UNE's] in New York."⁴³

⁴⁰ Id., p. 3.

⁴¹ WorldCom states in this regard "it is increasingly clear that the 100 percent fiber fed/[next generation digital loop carrier] broadband network construct adopted by the Commission in Phase 1, and proposed here, will result in enormous savings, particularly with respect to network operation costs." (WorldCom's Initial Brief, p. 8.)

⁴² Id., p. 9.

⁴³ Id., p. 1.

Rhythms/COVAD

Asserting that "this proceeding presents the New York Public Service Commission with the opportunity to bring to fruition the pro-competitive policies it has adopted over the years,"⁴⁴ Rhythms/COVAD, which treat primarily DSL-related issues, warn that these pro-competitive efforts would be defeated by a failure to price network elements at cost-based competitive levels. They say that Verizon's study is methodologically flawed and incorporates overstated cost estimates that will price competitors out of the market. In particular, they charge that Verizon's study fallaciously posits two separate networks--one for digital subscriber line services and one for all other services; as a result, the charges that apply to DSL competitors are neither efficient nor forward-looking. They assert as well, among other things, that Verizon's study fails to take proper account demand for DSL services; that its loop conditioning charges are designed to recover work that would not occur in a forward-looking environment; and that its loop qualification charges grow out of a failure to allow its competitors direct access to its loop qualification data base.

FairPoint

Addressing itself only to questions of rate deaveraging, FairPoint notes that the loop rates in Manhattan and a few other large urban areas have helped to start local exchange competition. It expresses concern about the absence of such competition in the remainder of the state, where loop rates are much higher under existing loop rate deaveraging. It offers a series of alternative rate structures under which "the rural rate band would ... apply to truly rural areas and not to the downtown areas of smaller cities and towns,"⁴⁵ thereby intending

⁴⁴ Rhythm/COVAD's Initial Brief, p. 1.

⁴⁵ FairPoint's Initial Brief, p. 2.

to extend the benefits of local exchange competition to a broader segment of the state.

CTTANY

CTTANY's 50-page brief is directed to Verizon's proposal to increase conduit rental rates substantially--by between 621% and 729% for main conduit rental, and between 449% and 1,083% for subsidiary conduit rental.⁴⁶ It urges rejection of the forward-looking costing method responsible for those increases and adoption, instead, of the FCC's formula based on historic costs. (Conduits are not a UNE and are not subject to mandatory TELRIC pricing) In CTTANY's view, doing so would insure fair facilities-based competition despite Verizon's "monopoly ownership and control of distribution and transmission facilities in New York"; provide Verizon a reasonable return on its investment; bring state and federal regulation of conduit rental and pole attachments into harmony; and alleviate the administrative burden that CTTANY sees as associated with Verizon's proposed method.

As noted, conduit rental rates will be the subject of a separate recommended decision.

Z-Tel

Asserting that UNE rates properly based on TELRIC are essential to the continued development of local exchange competition in New York, Z-Tel criticizes several specific aspects of Verizon's studies. In particular, it urges the Commission to reject usage-sensitive charges for unbundled local switching, contending that Verizon incurs no usage-sensitive costs in providing unbundled local switching to itself or its competitors.

Lightpath

⁴⁶ CTTANY's Initial Brief, p. 1.

Noting that its ability to serve its customers "is critically dependent on efficient interconnection with Verizon's network,"⁴⁷ Lightpath, a facilities based CLEC, contends that Verizon's geographically relevant interconnection points (GRIPs) proposal (the sole issue it considers) would undercut the voluntarily negotiated interconnection between the two companies. In addition, it regards the proposal as poor public policy, imposing inefficient transport obligations on CLECs, and it contends that Verizon has offered no argument in support of the proposal beyond those already found by the Commission to be inadequate.

Federal Agencies

The Federal Agencies note the federal government's interest as a large consumer of telecommunications services in New York State, explaining that UNE prices will play a large role in determining the retail prices that will be charged by CLECs and the degree of competitive choice that end users will enjoy. They go on to challenge various aspects of Verizon's studies, contending, among other things, that they fail to reflect current technologies and fail to incorporate all available costs savings. They regard the HAI Model as preferable to Verizon's studies, maintaining that it is more open to public scrutiny and that related models have been accepted by regulators in other jurisdictions.

SUMMARY AND OVERALL ASSESSMENT OF THE TWO STUDIES

As already noted, two studies of UNE costs and prices have been submitted in this proceeding--Verizon's own cost studies, and the HAI Model jointly sponsored by AT&T and WorldCom. The studies differ substantially in their method and results, though AT&T, again as already noted, maintained that proper adjustments to Verizon's studies would cause it to produce results that converge with HAI's. Overall, the parties'

⁴⁷ Lightpath's Initial Brief, p.2.

briefs devote vastly more attention to Verizon's studies than to HAI. Verizon's initial brief, for example, devotes only some 60 of its 390 pages to a discussion of HAI; the remainder presents and defends Verizon's own studies. But even AT&T allocates approximately 185 of the 200 pages in its initial brief to challenging and adjusting Verizon's studies and only some 12 pages to presenting its own, and WorldCom declines to discuss HAI at all, simply endorsing AT&T's presentation. Noting those data, Verizon suggests AT&T is abandoning its model or improperly withholding its arguments until its reply brief. Neither allegation is established; while AT&T devotes a substantially greater portion of its reply brief (32 of 105 pages) to its own HAI Model, it fairly uses those pages to respond to Verizon's arguments. But the fact remains that at the briefing stage, at least, the primary focus of all parties is on Verizon's studies and the adjustments to them that may or may not be needed.

That being as it may, my initial task is to examine the two studies in general and determine whether one or the other should be the starting point for analysis or whether it would be proper once again to apply the "convergence" method that emerged in the First Elements Proceeding and that AT&T at least suggests might be proper here. This section of the recommended decision undertakes that inquiry, beginning with descriptions of the two studies.

Verizon's Study

Verizon generally begins by attempting to identify the relevant investment associated with each network element.⁴⁸ It does so by determining the pertinent material cost, applying a utilization factor to develop a material cost per unit, and then applying investment loadings to capture the additional cost of engineering, furnishing, and installation (EF&I); of power requirements; and of central office land and building (L&B)

⁴⁸ For this account, see, generally, Verizon's Initial Brief, p. 13 et seq.

investment. Verizon describes in detail the manner in which these components are estimated; some of them are discussed further below. To a considerable extent, they are based on Verizon's actual historical data as adjusted and on estimates by its engineers.

To translate investments into monthly costs (and to develop nonrecurring charges, in a separate process that starts by estimating labor costs), Verizon uses annual cost factors (ACFs). According to Verizon, ACFs "are ratios calculated from aggregate account data that represent overall cost relationships for particular categories of equipment"; in contrast to the investment loadings that capture relationships between material costs and investments related to installation, power, and land and building, ACFs represent relationships "between certain types of expenses and either (1) relevant investments, (2) other relevant expenses, or (3) total revenues."⁴⁹ Verizon explains the operation of the ACFs as follows:

In determining the recurring cost for a UNE, the total installed investment is first multiplied by an expense-to-investment ACF. This provides an estimate of investment-related expense for the UNE, together with any direct operating expenses. The resulting recurring expense amount is multiplied by an expense-to-expense ACF[,] which factors in certain common overhead costs. A growth revenue loading factor is then applied to incorporate costs related to uncollectibles, Commission assessments, and other revenue-based expenses. The result in an annual recurring cost, which can then be divided by 12 to establish monthly recurring UNE rates.⁵⁰

Verizon notes that the ACFs perform the same functions as the carrying charge factors (CCFs) did in the First Network Elements Proceeding but incorporate certain methodological refinements. The ACFs generated considerable controversy (especially, but far from exclusively, with respect to a forward-looking-to-current

⁴⁹ Id., p. 23.

⁵⁰ Id.

[FLC] adjustment, said to undermine their claim to be forward-looking) and are discussed in greater detail below.

Finally, Verizon deaveraged its rates into three geographic zones, as required by the FCC rules. The zones would continue to be Manhattan, major cities, and the remainder of the State. Inasmuch as loops are the only element whose costs were found to vary among the zones, the rates for other elements would not differ by zone.

Verizon contends, overall, that its studies are long-run, fully forward-looking, and in compliance with TELRIC.⁵¹ It asserts that while it does not take account of speculative future innovations--something not required by proper long-run costing--it adjusts its raw expense data to appropriately reflect forward-looking assumptions, and it assumes all UNEs to be provisioned using the most efficient technology currently available; as a result, its total TELRIC cost is substantially below its current actual cost. In summarizing its method, it asserts that "the use of actual data kept the studies grounded in reality; the aggressive assumption of the ubiquitous deployment of current technology, and of current prices, insured that the studies were TELRIC-compliant."⁵² It goes on to offer the following examples of its forward-looking assumptions:

Studies for voice grade loops assumed the use of "Next Generation" Digital Loop Carrier ("NGDLC") technology and GR303 integration.

Location of remote terminals in loops was based on a forward-looking redesign of a statistically valid sample of feeder routes.

⁵¹ In so doing, it once again reserves its objections to TELRIC, expresses agreement with the Eighth Circuit's conclusion that "the TELRIC regulations are unlawful and inappropriate," and it continues to urge "the adoption of alternative approaches that better reflect [its] actual costs." (Verizon's Initial Brief, p. 8.)

⁵² Id., p. 11.

Local and tandem switching studies were based on "model switches" designed to efficiently serve current demand levels.

100% SONET fiber ring design was assumed for interoffice transport, and DWDM technology was utilized for OC-48 transport.

Nonrecurring cost studies assumed mechanization, process improvements, and work eliminations not yet achieved in Verizon's actual operations.

Productivity adjustments were reflected in the ACFs for Network and Administration.

The Maintenance ACF for copper cable was adjusted to eliminate any increased maintenance expense associated with aged or deteriorated cable.⁵³

Finally, Verizon contends that its costing method avoids any risk of double recovery of either investment costs or expense. Specific double recovery concerns, some of which were identified by the Commission in earlier decisions, are discussed below.

Verizon attributes much of the difference between its existing and proposed rates to refinements in its costing methods, thereby seeking to refute AT&T's suggestion that rate increases could be justified only if costs have increased or rates in the First Proceeding had been miscalculated. (AT&T doubts that costs have increased but Verizon asserts that in many categories they have.) As advances over its earlier method, it identifies updated inputs; a comprehensive study rather than one performed in three phases; changes in the provisioning construct that underlies the cost studies, based on a better understanding of the features required by CLECs and the manner in which UNEs will be provisioned; clarifications by the Commission and by the FCC of how UNEs are to be offered and priced; and methodological refinements such as the FLC and the introduction of deaveraged environmental factors. The controversies engendered by these methodological refinements are discussed below; Verizon here argues that they should be

⁵³ Id.

welcomed and not rejected on grounds of novelty or merely because they increase prices.⁵⁴

Verizon argued as well that its studies are well organized into modules and that their inputs can easily be modified for sensitivity analysis. It at least tacitly recognizes that the HAI Model may be more user-friendly than its studies, but contends that the reliability of a model is more important than its ease of use.⁵⁵ Finally, it recognizes that its study relies to a degree on proprietary information but sees this as necessary because of its use of "real world" data, some of which is necessarily proprietary. It contends that reliance on proprietary data has not prevented effective analysis and review, inasmuch as the data were made available to Staff and parties who had signed the protective order.

The HAI Model

The HAI Model is described as a "bottom-up economic-engineering costing model of [Verizon's] basic local exchange service It estimates the costs that an efficient firm would incur to provide UNEs for narrowband voice-grade telephone services, but capable of providing access to advanced services."⁵⁶ As a bottom-up model, it proceeds to develop UNE costs by modeling the construction of a telecommunications network on the basis of detailed information regarding Verizon's demand quantities, network component prices, and costs and expenses. It first determines the current demand for Verizon's services, using geo-coded customer location data or, where those data are not available, by assigning surrogate locations in accordance with an algorithm. It takes account as well of Verizon's line count data, by wire center as of 1998. The Model then groups customers into clusters, in accordance with

⁵⁴ Id., pp. 32-33.

⁵⁵ Id., p. 35.

⁵⁶ Tr. 1,285. AT&T does not describe the model in its brief; the summary here is taken from the testimony of its witness Mercer and the model description in Exhibit 314.

specified criteria, and associates the clusters with serving areas that can be efficiently served by available local exchange technology. The serving area is a rectangle calculated by the clustering algorithm and permits the model to estimate the type and amount of outside plant required to serve it, taking account of terrain and other pertinent attributes.

The Model next determines the amount of the various network components needed to support the known demand for the elements and services in question, using "optimization routines" that insure the use of outside plant technically and economically suited to local conditions, the proper choice of feeder technology, the proper choice between wireline and wireless distribution systems, and efficient inter-office fiber optic transport rings. Next, the Model estimates the investment required to purchase and deploy the requisite quantities of each identified component. In doing so, it takes account of public information and information from subject matter experts. The Model then determines the cost of operating and maintaining the network, taking account of capital carrying costs, network operations, maintenance, customer operations, and corporate overhead. Finally, the Model produces output results identifying forward-looking UNE costs.⁵⁷

In its brief, AT&T contends that the record shows the HAI Model conforms to the TELRIC standard as applied by the Commission.⁵⁸ It contends as well that the study is fully documented and can be readily understood, tested and manipulated by interested parties. In this regard it points to the documentation provided in Exhibit 314 and to the testimony of witness Donovan in support of the study's outside plant inputs,

⁵⁷ Tr. 1,285-1,290. Much greater detail regarding the HAI Model is provided in Exhibit 314, comprising a model description, a user guide, and input portfolios.

⁵⁸ AT&T's Initial Brief, p. 168. AT&T does not elaborate on this claim in brief but offers two transcript references to statements to this effect by its witnesses (id., n. 431) and cites Exhibit 314.

the testimony of witness LoFrisco in support of the corporate overhead and forward-looking network operations factors, and the testimony of witness Hirshleifer in support of the cost of capital input. It notes as well that the study is formatted in Microsoft Excel, which permits the derivation of every formula and cell to be traced. It adds that the study has been modified to correct "the few bona fide calculation mistakes" that Verizon identified and contends that "with these revisions to the study in place, the evidence shows that the engineering assumptions, methodologies, calculations, and inputs underlying the [HAI] study reasonably develop Verizon's forward-looking economic costs to provide UNEs."⁵⁹

Arguments

The obverse of the greater emphasis on specific flaws in and adjustments to Verizon's studies is the greater stress (albeit in the far fewer briefing pages devoted to it) on the overall qualities of the HAI Model. Consistent with that briefing practice and the state of the record (which includes numerous specific adjustments to the Verizon study that must be addressed), this general section of the recommended decision describes primarily Verizon's overall critique of the HAI Model and AT&T's defense.⁶⁰ Overall criticisms of Verizon's model comprise primarily the allegations that it rests too heavily on historical data and is insufficiently forward-looking; and that it therefore produces rates that would permit Verizon to recover (or more) its embedded costs, thereby violating the TELRIC concept and seriously threatening the development of local

⁵⁹ AT&T's Initial Brief, p. 170, citing, for refutation of Verizon's criticisms of the model's inputs and assumptions, Tr. 1,942-2,064.

⁶⁰ In presenting these lengthy arguments, I have tried to convey their contours and tenor while avoiding detail that would have made the account far too long. Interested readers are referred to the briefs, and parties should be assured that all arguments, even if not recounted here, have been read and considered.

service competition in New York. These concerns recur in the many specific challenges, criticisms, and proposed adjustments to Verizon's studies and will be fully presented and discussed as they arise.

Verizon characterizes the HAI Model as "a convoluted agglomeration of engineering assumptions, arbitrary allocations and estimating methodologies that are inadequately described, difficult to decipher and often fail to function as intended."⁶¹ It charges, among other things, that the Model is inconsistent with TELRIC; that its outputs have never been validated against real-world data; that it requires continuous correction; and that its results are volatile and, in any event, well below the lowest rates set in any other TELRIC proceeding. Contending that the FCC's Universal Service Proceeding model produces loop costs more than double the highest HAI estimates, Verizon asserts that the HAI Model "makes the patently unreasonable claim that Verizon's entire network could be built for about one-third of Verizon's existing investment, and operated at about one-fifth of Verizon's costs."⁶² It charges that the Model's sponsors have failed to address the criticisms of the Hatfield Model expressed by the Commission in the First Elements Proceeding, where the Commission found that model "flawed in concept," and it organizes its brief around the criticisms there expressed by the Commission.

More specifically, Verizon argues, first, that the HAI Model fails to produce proper TELRIC cost estimates, which the FCC intended "to identify an incumbent carrier's actual forward-looking costs based on the deployment of 'efficient new technology' to the extent 'compatible with the existing infrastructure.'"⁶³ Contending that the AT&T/WorldCom witness acknowledged that a proper TELRIC model should "estimate costs

⁶¹ Verizon's Initial Brief, p. 326.

⁶² Id., p. 328, citing Tr. 2,948; 2,950-2,952.

⁶³ Id., p. 331, citing 47 CFR §§51.503-51.511; Local Competition Order, ¶685; Tr. 5,838.

that an efficient competitor using forward-looking technology actually would be able to achieve,"⁶⁴ Verizon contends that the HAI Model, to the contrary, is premised on the artificial assumption of a brand new, fully functioning network being dropped into place instantaneously. Among other shortcomings, the Model therefore excludes the costs of growth, customer churn, and fluctuations in demand; and it fails, among other things, to take account of the costs for growth or add-on switch capacity.

The Model likewise applies, in Verizon's view, unrealistically high utilization factors that avoid the cost of capacity needed in many parts of the network. It includes as well cost-minimizing assumptions that fail to reflect the realities of an operating network; these include the premise that poles, trenches, and conduit throughout the network are immediately shared by two or three other utilities. Asserting that "even the sponsor's own witnesses have acknowledged that no network will ever look like the HAI hypothetical construct,"⁶⁵ Verizon contends that the proponents of the HAI Model have failed to bear their burden of explaining how and why the Model works as it does and of demonstrating that it performs reliably. It points to the Model's need for frequent revisions and corrections and to the portions of its design that are proprietary, and it criticizes the Model for its alleged failures in documentation, its frequent references to unsupported judgement, and the changes over time in how that judgement has been exercised.⁶⁶ Among other things, Verizon challenges the "best practices study" cited by the HAI proponents as showing that Verizon's cost could be reduced as

⁶⁴ Tr. 5,844-5,845.

⁶⁵ Verizon's Initial Brief, p. 336, citing Tr. 2,930-2,931. It should be noted that the citation is not to testimony by AT&T/WorldCom witnesses in this proceeding but to testimony by Verizon witnesses recounting statements made in other jurisdictions by HAI proponents.

⁶⁶ Verizon's Initial Brief, pp. 339-346.

much as 50% (by application of the "forward-looking network operations factor").⁶⁷ It charges that this study is "just a distorted mathematical averaging of ARMIS data from a sample of mismatched companies, offered up to suggest conclusions that are inconsistent with the underlying data"⁶⁸ and that it lacks any controls to ensure that the reported data involve similar operations performed under comparable circumstances.

Beyond that, Verizon charges, the HAI Model relies on formulas so complex and confusing that it is nearly impossible to determine if mathematical errors have been made. It asserts that AT&T/WorldCom witness Dr. Mercer misconstrued one of his own Model's calculations when it was presented to him on cross examination, an error it says was conceded by AT&T and WorldCom in their response to record request No. 11.⁶⁹ Verizon adds that these concerns are compounded by allegedly incomplete and contradictory responses by the Model's sponsors to requests for information and clarification, and it urges that the HAI Model's sponsors be held to the standards of full disclosure and candor imposed on Verizon in a rate proceeding. Citing in particular the anomalous ratios of distribution structure to cable costs said to be shown in its Exhibit 443, Verizon contends that instead of responding fully to the identification of those anomalies, AT&T and WorldCom sought, unpersuasively, to challenge the data used by the exhibit--data, according to Verizon, submitted by AT&T/WorldCom themselves earlier in the proceeding and not updated because they had not significantly changed. It asserts that even the revised versions of the Model submitted in response to the identification of errors continue to be flawed in a variety of ways.⁷⁰

⁶⁷ Exhibit 313.

⁶⁸ Verizon's Initial Brief, p. 343, citing Tr. 6,007-6,029.

⁶⁹ Verizon's Initial Brief, pp. 347-348, citing Exhibit 440, Tr. 6,003, and Exhibit 454 (on-the-record request No. 11).

⁷⁰ Verizon's Initial Brief, p. 355.

Verizon next charges that the Model rests "on a series of erroneous engineering assumptions, arbitrary allocation schemes[,] and novel estimating methodologies that have never been shown to produce reasonable results."⁷¹ Among other things, the Model estimates outside plant on the basis of current rather than potential or ultimate demand; uses a clustering process and geo-code database rejected as inadequate by the FCC in the Universal Service Proceeding;⁷² and never demonstrates the reasonableness of its method for estimating the needed amount of distribution cable, which implies skyscrapers several hundred stories tall and then deals with that anomaly by including in the cost estimate only sufficient cable to reach the first 50 floors. Verizon criticizes as well various aspects of the HAI Model's assumptions with regard to switching costs, interoffice facilities, and common costs and expenses.⁷³ objecting, among other things, to the premise of a linear relationship between a firm's direct costs and its common costs. Verizon further contends that the HAI Model's estimates begin with known system requirements in New York but go on to estimate "a hypothetical infrastructure on the basis of a series of simplifying assumptions and untested algorithms--none of which has been demonstrated to be reasonable and reliable."⁷⁴ It contends, for example, that while the Model's sponsors initially dismissed Verizon's argument that HAI's \$14.6 million estimate of the cost of tandem switching capacity was unreasonable, they later revised the Model to increase the estimated number of tandem switches from 9 to 16, the needed investment in tandem switching by more than 640%, and the estimated per minute cost of tandem switching by more than 35%.⁷⁵ Verizon charges that the Model's sponsors reject any effort to compare its outputs to the

⁷¹ Id., p. 356.

⁷² Id., p. 357

⁷³ Id., pp. 360-365.

⁷⁴ Id., p. 366.

⁷⁵ Id., p. 367, citing Exhibit 319 (Attachment 2).

existing network and urge its adoption solely on the basis of unproven assurances of sound engineering, reasonable techniques, and appropriate inputs.

Verizon points as well to the FCC's criticisms of a related HAI Model and to state commissions that have rejected various versions of it, as well as to this Commission's rejection of its predecessor in the First Elements Proceeding. Finally, Verizon challenges various inputs used in the model which, it says, "were derived by mixing and matching data taken out of context, drawn from different companies, operating in different parts of the country over different periods of time, [and] create an array of mismatched numbers that, again, do not reflect the actual costs any company is likely to incur."⁷⁶

In response, AT&T argues, as a general matter, that the Commission should concern itself with only the most recent version of the HAI Model, which corrects the genuine errors identified during the proceeding, and should disregard the earlier versions noted by Verizon. It disputes as well what it characterizes as Verizon's claim to have only "scratched the surface"⁷⁷ in pressing its critique, asserting that Verizon consultant NERA has engaged in extensive criticism of the HAI Model in many jurisdictions and can be assumed to have identified by now all of the Model's flaws. AT&T replies at considerable length to the allegation that it has not been responsive to questions about the Model, describing in detail its responses to Verizon's inquiries as well as to those posed by Staff following the hearing.

More specifically, AT&T first disputes Verizon's charge that the HAI study violated TELRIC principles in its use of excessively high fill factors and of new switch discounts. It contends that the Model provides capacity for additional demand by using fill factors consistent with those already found

⁷⁶ Verizon's Initial Brief, p. 373; specific inputs are criticized at pp. 373-379.

⁷⁷ AT&T's Reply Brief, p. 63.

reasonable by the Commission, maintaining that the Model effectively sizes the network at 100% of the local exchange customer base, allows for additional growth, and provides enough capacity to account for the additional volatility that might be associated with Verizon's loss of customers and facilities to competition. (Fill factors and switch discounts are discussed extensively below, in the context of AT&T's proposed adjustments to Verizon's study).

AT&T next disputes the charge of inadequate documentation for and explanation of the study. It contends it clarified various assumptions in its interrogatory responses, but that in some instances, it was required, because of lack of information, to "make assumptions in lieu of replicating the detailed planning and engineering process that an ILEC like Verizon actually goes through in configuring its network,"⁷⁸ and that those assumptions were reasonable. It contends that Verizon's criticism of its 50% forward-looking network operations factor ignores the record evidence confirming, through four separate runs of the analysis that take account of Verizon's various criticisms, that the 50% factor is reasonable.⁷⁹ It insists the adjustment was based on publicly available Verizon data that Verizon has not shown to be distinguishable from analogous data in other jurisdictions that tended to confirm AT&T's assertions.

AT&T likewise disputes the criticism that the HAI study is complex and confusing, pointing to Verizon's full exploration of the study. It denies that its witness Mercer misread the formula for tandem common equipment investment, explaining that he simply misspoke in a response given subject to check and that the record on the point is clear.

AT&T disputes in detail Verizon's claim that Exhibit 443 demonstrates anomalous results, contending that the data used in the exhibit are not what they were represented to

⁷⁸ Id., p. 75.

⁷⁹ Id., pp. 77-80.

be and that the exhibit therefore should be disregarded and the portions of Verizon's initial brief based on it excluded from consideration. AT&T nevertheless responds specifically to two asserted anomalies raised for the first time in brief on the basis of Verizon's further consideration of Exhibit 443, explaining the anomalies and calculating that even if they warrant re-running the model, their effect is only a one-cent change in the statewide loop rate.

Finally, AT&T disputes the claim that the FCC's Universal Service Proceeding model generates loop costs far in excess of HAI's; it attaches to its reply brief an analysis said to show that proper use of the FCC's model generates costs that approximate HAI's.⁸⁰

Discussion

In assessing the competing analyses, one must first discount the parties' various "arguments from result." The HAI Model need not be rejected merely because it would reduce existing rates and deny Verizon the recovery of all of its actual costs--something contemplated not only by TELRIC but also by traditional regulation, which allowed recovery only of prudent costs; and Verizon's study is not facially absurd because it would increase rates and make it harder for CLECs to compete. We cannot presume the outcome of proper TELRIC analysis; and if the costs are reasonably and fairly calculated, the price chips should be allowed to fall where they may.

Second, we must recognize that we are not writing on a clean slate. The Commission determined, in the First Elements Proceeding, that while both presentations suffered from serious weaknesses, the HAI Model's predecessor was "more flawed in concept than [Verizon's] study."⁸¹ Verizon's present study differs little enough from the last one in overall method that there is no basis for rejecting it in concept. That does not

⁸⁰ Id., p. 93; Attachments 5-17.

⁸¹ Phase 1 Rehearing Opinion, p. 8.

mean that all its innovations are sound; some are not. All aspects of the study, both old and new, require rigorous criticism, and many will be seen to warrant substantial adjustment. But the Commission has already determined that a study like Verizon's can be a reasonable starting point for TELRIC-based rate setting and that it is not, for example, disqualified by reason of using historical costs as a point of departure.

The HAI Model, meanwhile, needs to overcome the burden of its predecessor's rejection by the Commission, and it is far from clear to me that it has. Its "tenuous link to the real world" remains a serious concern, for in its effort to avoid reliance on Verizon's historical costs, it makes all manner of subjective assumptions. If TELRIC required avoiding reference to historical costs even as a starting point, there might be no alternative to a method like HAI's. But if TELRIC permits--as the Commission found it does--initial reliance on historical costs as long as they are severely examined and modified as needed in light of forward-looking analysis, that sort of company-specific analysis seems more likely to achieve a reasonable result than one that makes extensive use of algorithms based on subjective assumptions.

AT&T's briefs and testimony demonstrate that Verizon has overstated its criticisms of the HAI Model and that some of Verizon's "gotchas" can be explained away. But when all is said and done, the recurring corrections to the Model seem to confirm its weaknesses more than its suppleness, and the Model continues to suffer from the flaws identified by the Commission in the First Elements Proceeding. Verizon likewise overstates its case when it suggests that AT&T and WorldCom have abandoned their support for the HAI Model; AT&T's comment in brief that the case could be decided either on the basis of HAI or on the basis of Verizon's study suitably adjusted is nothing other than lawyerly argument in the alternative. Still, AT&T's ability to reach that result confirms the capacity of Verizon's study to be adjusted, adding to one's confidence that it can be used as the

starting point for analysis without concern that the end-point of the analysis will be thereby determined.⁸²

Accordingly, I recommend, for theoretical and practical reasons alike, that the Commission use Verizon's study as the starting point for decision making. As a matter of theory, HAI is a ponderous tool that is too far removed from the reality of Verizon's circumstances to be used when there is an alternative better grounded in real data. As a practical matter, Verizon's study lends itself to adjustment in a manner that appears able to produce a sound result. The remainder of this recommended decision will be devoted to those adjustments.

ANNUAL COST FACTORS

Introduction

As already mentioned, Verizon used annual cost factors to convert TELRIC investments into annual costs for UNEs and to develop nonrecurring charges. The factors are expressed as ratios whose numerator is pertinent expenses and whose denominator may be relevant investments, other expenses, or revenues. Six of the eight ACFs use an investment denominator; they are identified as (1) the depreciation ACF, (2) the return, interest, and Federal income tax (RIT) ACF, (3) the ad valorem tax ACF, (4) the network ACF, (5) the wholesale marketing ACF, and (6) the other support ACF. The common overhead ACF is an expense-to-expense ratio used to identify and allocate common overhead expenses, special pension enhancement payments, and savings associated with the Bell Atlantic/NYNEX merger. Finally, the gross revenue loading ACF, expressed as an expense-to-revenue ratio, allocates uncollectibles and Commission expenses.

To develop its ACFs, Verizon began with 1998 expenses, which it claims to have adjusted (from \$7.866 billion overall to

⁸² This is not to say that the HAI Model lacks the capacity to be adjusted, but only that the demonstrated adjustability of Verizon's study obviates any potential concern that choosing it as the starting point predetermines the outcome.

\$5.316 billion overall) to insure compliance with TELRIC, to reflect the Commission's decisions in the First Elements Proceeding, and to capture an assumed level of productivity and savings. In addition, it asserts, the ACFs reflect no growth in costs since 1998, thereby sparing UNE customers the effects of inflation. Verizon contends that "the ACFs provide customers with the benefits of productivity gains, even when specific programs have not been identified to achieve these gains, while insulating customers from cost increases, even when the increases are known and certain."⁸³

Verizon maintains that its ACFs were developed in a manner largely consistent with that used to develop carrying charge factors (CCFs) in the First Proceeding.⁸⁴ It argues as well that substantial reductions in the expenses captured by the ACFs, as urged by some parties, would unlawfully and improperly deny it the opportunity to recover the costs it actually expects to incur in providing UNEs and violate the statutory mandate that rates be just and reasonable. Verizon explains as well that it applied three generic adjustments to its ACF calculations "in order to insure that the ACFs used in this proceeding accurately reflected TELRIC assumptions."⁸⁵ The adjustments are said to exclude retail costs, account for inflation and productivity, and apply a forward-looking-to-current conversion.

Objections to the ACFs pertained to the calculation method in general, to the generic adjustments just noted, and to specific ACFs. The general objections are discussed first, followed by a discussion of specific ACFs. Cost of capital issues are considered under the next major heading.

⁸³ Verizon's Initial Brief, p. 39.

⁸⁴ The differences between the two processes are described at Tr. 2,366-2,369; they are specifically discussed only to the extent they are controversial.

⁸⁵ Verizon's Initial Brief, p. 41.

Overall Method and Generic Adjustments

1. Productivity

In estimating the expenses to be allocated through the ACFs, Verizon assumed productivity savings of 2% above inflation for network related expenses (primarily maintenance) and 10% above inflation for non-network related expenses; it asserts that these are the figures that the Commission applied in Phase 1 of the First Proceeding as well as in a Rochester Telephone Corporation proceeding.⁸⁶ The CLEC Coalition argues, in general, that application of the concepts used by the Commission in the First Proceeding requires that the productivity figures be substantially increased.

According to the CLEC Coalition, the 10% figure applied by the Commission in the first proceeding represents an annual rate of 5% applied over two years (1995, the base year for the data, to 1997, the year the prices were to take effect). In this proceeding, 1998 data are being used, and the rates will take effect in late 2001, suggesting a productivity factor of at least 15% (5% over three years) or even 20% (if a fourth year is recognized). Citing the testimony of its witness Kahn, it goes on to argue that the 5% annual figure should be regarded as a minimum, given the downward trend in telephone company average costs, the 6.0%-to-6.5% annual productivity revealed by FCC studies, the telephone industry labor productivity advances that exceed even those figures, and the incentive to productivity that can be expected to flow from increased competition. It therefore advocates an annual productivity figure of 5.0% to 5.5%, which it contrasts with the implicit annual rate of 3.33% that follows from Verizon's application of 10% productivity improvement over a three-year period.

Verizon had sought to justify its productivity figure by reference to productivity offsets applied in other jurisdictions in price cap proceedings; but the CLEC Coalition

⁸⁶ Tr. 2,398. The Rochester Telephone proceeding is Case 95-C-0657 et al., First Network Elements Proceeding, et al., Opinion No. 99-8 (issued July 22, 1999).

argues that the productivity offset used in a price cap proceeding "will not reflect the agency's judgement of the rate of productivity growth--the matter at issue in this costing proceeding--but a design parameter intended to help meet the overall set of often competing public policy goals."⁸⁷ Among other examples, it cites a Kentucky decision in which the productivity offset was eliminated from the price cap calculation; it explains that the Kentucky Commission was not implying that it foresaw no productivity growth but, rather, expressing its preference to have productivity savings used for infrastructure development rather than price reduction.

With respect to maintenance expenses, the CLEC Coalition would use a 4% productivity adjustment, the effect of extending Verizon's 2% factor to encompass a four-year adjustment period. With regard to copper distribution facilities, however, it would apply the 15% or 20% adjustment, contending that very little copper distribution plant is turning over, and that the 5% per year "adjustment properly reflects the improvement in maintaining whatever copper plant may be in place."⁸⁸

Verizon objects to increasing the productivity adjustment. It argues that the adjustment applied by the Commission in the First Proceeding and replicated here had been premised not on actual cost control programs but merely on the Commission's estimate of what would be reasonable; that it carried the adjustments forward even though it believed them to be obviated by other adjustments in the proceeding; that its studies absorb the effects of inflation and known cost increases such as the 4% annual increase in wages negotiated at conclusion of the 2000 strike; and that there is no basis in the record for the productivity figures offered by witness Kahn. It contends, among other things, that Dr. Kahn misused an FCC staff report, failing to take account of the anomalous nature of one of the

⁸⁷ CLEC Coalition's Initial Brief, p. 19.

⁸⁸ CLEC Coalition's Initial Brief, p. 22.

years studied, and that removal of that year would reduce the figure to 4.6%. In addition it says, the Bureau of Labor Statistics data Dr. Kahn relied on to support his 6% productivity figure pertained to a wide range of telecommunications companies, not only local exchange companies; and the productivity gain shown for the industry by the data was 4.9%, not 6.0%. Beyond that, it says Dr. Kahn greatly understated likely inflation levels.

In its reply brief, Verizon takes the CLEC Coalition to task for proposing, in brief, adjustments even higher than those advocated by Dr. Kahn in his testimony. It reiterates its criticisms of that testimony and points to a Maine proceeding in which Dr. Kahn's testimony showed that telephone company costs had increased by 20% from 1990 to 1999. It agrees with the CLEC Coalition that the productivity offset used in a rate cap proceeding may reflect matters other than an estimate of productivity, but it explains that its presentation on those offsets, which showed an average offset of 2.95%, demonstrated annual productivity of about 3.95%.

The CLEC Coalition responds by citing the Commission's decision in the First Proceeding, as well as FCC decisions, as standing for annual productivity factors greater than those implied by Verizon's analysis here.

Both parties direct most of their efforts on this issue to the proper annual productivity figure and pay relatively little attention to what appears to be at the heart of the CLEC Coalition's claim: the interval between "base year" and "rate year" is longer here than it was in Phase 1, and use of the same annual productivity figure therefore should result in a greater overall adjustment. In denying Verizon's petition for rehearing in Phase 1, the Commission said that

The 10% level, properly ambitious, was selected...in view of the likelihood that the development of competition would lead to productivity gains, and to ensure that all resulting savings were anticipated. The productivity factor is applied to expenses

and is generally consistent with the annual total factor productivity (TFP) gain of slightly over 5% contemplated by the PRP [New York Telephone Company incentive regulation] decision. To the extent it is slightly higher, it properly recognizes the additional savings that may be attributed to developments since the PRP, including enactment of the 1996 Act.⁸⁹

Verizon's testimony calls into serious question the 5% and higher annual productivity figures advocated by the CLEC Coalition, but there is no basis either for an annual figure as low as the 3.33% implied by Verizon's proposal to apply a 10% adjustment over the period from 1998 to 2001. A figure so low would certainly be at odds with the Commission's use in the First Proceeding of a "properly ambitious" productivity level. Verizon's own presentation shows that the average productivity factor selected by regulators in price cap proceedings implies an annual productivity level of about 3.95%, and applying that annual figure in this proceeding, over a period somewhat in excess of three years, suggests an overall productivity adjustment of 12.0%, which I recommend. Similarly, the productivity adjustment for maintenance should be 3%, using the Phase 1 annual figure but recognizing the longer interval in the present case. Finally, Verizon has successfully rebutted the CLEC Coalition's proposal to treat copper plant maintenance differently; the premise of no plant turnover has not been established.

2. Forward-Looking-to-Current Factor

According to Verizon, CCFs were traditionally calculated by finding the relationship between current expense and current investment and then applying the resulting ratio to convert the investment into customer charges that permit recovery of both investment and expenses. In a TELRIC context, the numerator of this factor--current expense--is significantly

⁸⁹ Phase 1 Rehearing Opinion, pp. 52-53 (footnote omitted).

reduced to reflect forward-looking TELRIC assumptions, and unless the denominator is likewise reduced, the correspondingly lower factor, when applied to forward-looking TELRIC investment, will underrecover expenses to a degree not contemplated by the TELRIC method. Reducing the denominator is impractical, inasmuch as TELRIC investments cannot be determined before the end of the study process. Accordingly, Verizon proposed an adjustment, termed the forward-looking-to-current (FLC) factor, that would divide the ACF by .70, representing the approximate ratio of total incremental costs to the current level of those costs as calculated in the First Proceeding and in proceedings in Massachusetts and Pennsylvania. It applied the FLC factor to the network, wholesale marketing, other support, and common overhead ACFs--those in which a reduction in investment could not be assumed to imply a comparable reduction in expenses. It did not apply the FLC to the depreciation, RIT, and ad valorem ACFs, which are directly related to investment levels, or to the gross revenue ACF, which directly reflects the level of expenses. Verizon notes that even with the FLC applied, its studies reflect only \$5.316 billion in recognizable costs, in contrast to its claimed actual costs of \$7.571 billion.

The FLC drew the fire of numerous parties, most of whom saw it, in AT&T's words, as "nothing more than a poorly disguised attempt by Verizon to recoup its embedded, inefficient operating costs. Such recovery would violate TELRIC" ⁹⁰ AT&T goes on to argue that the application to lower TELRIC investment levels of current expense-to-investment ratios, which Verizon characterizes here as an unnecessary and unwarranted reduction in expenses, was cited by Verizon in the First Proceeding as a factor insuring that its cost calculations captured forward- looking efficiency gains and productivity improvements. Indeed, AT&T goes on, the Commission found a need to recognize even greater savings through application of the productivity factors previously discussed. AT&T therefore

⁹⁰ AT&T's Initial Brief, p. 47.

expresses surprise that Verizon would attempt to increase its cost factors by almost 43%, and it contends that doing so would, in effect, substitute an embedded cost analysis for a forward-looking TELRIC analysis.

Verizon claims that it has already reflected prospective efficiencies through such steps as absorbing inflation, applying productivity gains, and capturing merger savings; but AT&T contends that this simply means it has complied with the Phase 1 Opinion. AT&T therefore denies that any of these adjustments justify the FLC factor, which would overwhelm their combined effect. Finally, AT&T maintains "it cannot be a coincidence that Verizon first proposed its egregious FLC factor only after its long-distance entry in New York had been authorized. This proposed adjustment to Verizon's UNE rates is fundamentally anticompetitive in its effect and, inferably, in its intent."⁹¹

The CLEC Alliance likewise views the adjustment as nothing more than a back-door attempt to recover embedded costs. It argues, for example, that legal and executive expenses, contrary to Verizon's premise, would be reduced "under an assumption of workable competition in which [Verizon's] regulatory efforts to perpetuate its monopoly are assumed away."⁹² Citing the FCC's ban on recovering embedded costs in a TELRIC analysis, the CLEC Alliance sees no basis for assuming that expenses in a forward-looking construct would bear the same percentage relationship to investment as do current expenses, nor does it see any basis for assuming that the same 70% factor should be applied to all of the asset categories at issue. Finally, it argues that the FLC factor is inconsistent with other internal Verizon data, according to which the cost of equipment in 1998 and 1999 is in some instances lower than in the past and in other instances higher.

⁹¹ Id., p. 52.

⁹² CLEC Alliance's Initial Brief, p. 32.

The CLEC Coalition argues similarly, suggesting that an alternative method to adjust investment balances to forward-looking levels could be based on current-cost to book-cost ratios and price indices developed by Verizon for the plant and equipment it purchases. The CLEC Coalition also takes issue with Verizon's premise that current costs can be measured by regulated revenues, citing testimony that revenues might be a surrogate for costs only if the market were competitive or Verizon's monopoly operations were subject to rate of return regulation, neither of which is the case.

WorldCom asserts that "the FLC factor increases Verizon's annual recovery of expenses by a staggering \$225 million."⁹³ It argues that Verizon admitted in cross-examination that the FLC factor would enable it to recoup the expense reductions that result from applying historical cost factors to a TELRIC-consistent investment base reflecting the forward-looking technology contemplated in the first proceeding.⁹⁴ Z-TEL likewise sees the FLC factor as inconsistent with TELRIC.

Verizon responds that the FLC is needed to avoid a windfall to CLECs--in effect, a double count of TELRIC-related savings. It contends that the CLECs are arguing for the preservation of existing rate methods, even if shown to be inapposite in the TELRIC environment. It disputes the premise that the Commission previously rejected an FLC, explaining that its presentation in the First Proceeding had not reduced the numerator of the CCF to reflect forward-looking assumptions. The CLECs, meanwhile, reiterate their charge that Verizon would use the FLC to recover embedded costs, in violation of TELRIC, and that the effect of the FLC is to increase ACFs by about 43%. AT&T points to the Commission's statement, in adopting the Phase 1 productivity adjustment discussed in the previous section, that "[Verizon]... is unpersuasive when it argues that

⁹³ WorldCom's Initial Brief, p. 52.

⁹⁴ Id., p. 53, citing Tr. 5,317-5,321.

forward-looking expense reductions are adequately captured by application of historical CCFs to a presumed lower investment base"⁹⁵; and it charges that Verizon is ignoring that decision.

AT&T correctly cites the Phase 1 determination, but it disregards an important distinction between the Phase 1 CCFs and the ACFs proposed here. In Phase 1, the CCFs was calculated for the most part as the ratio of historical expenses to historical investment, and the Commission was properly unpersuaded that application of that ratio to TELRIC investment would adequately capture pertinent forward-looking savings. Here, in contrast, the numerator of Verizon's proposed ACF is forward-looking TELRIC expense, yet the denominator remains historical investment; the ratio, accordingly, is lower than it would have been in Phase 1. That lower ratio is still applied to forward-looking TELRIC investment, thereby in effect double counting the TELRIC adjustment, as Verizon argues. Seen in this light, the FLC does not convert TELRIC costs to embedded; it merely tries to restore a "twice-TELRICed" cost calculation to one that recognizes TELRIC only once--as was the case initially in Phase 1.

That the FLC appears sound in concept, however, does not necessarily mean that it is correctly calculated. Verizon derived its FLC by using revenues as a proxy for investment (since TELRIC investment could not yet be estimated) and finding that forecast TELRIC revenues came to only 70% of historical revenues in the base year of 1995. Verizon's response to Staff's post-hearing question PSC-VZ-1 now provides an estimate of TELRIC investment, and that investment, overall, comes to 75.3% of historical investment in the 1998 base year for this case. That comparison (rounded to 75%) is more apt than the one Verizon used, and the FLC should be reduced in a manner consistent with it. (The availability of the TELRIC investment might suggest recomputing the ACF on that basis, using forward-looking expense in the numerator and forward-looking investment

⁹⁵ AT&T's Reply Brief, pp. 3-4, citing Phase 1 Opinion, p. 98.

in the denominator and thereby obviating the FLC entirely. That, however, would be a cumbersome effort that would fundamentally change the nature of the ACF as a factor that makes use of historical relationships. Also desirable though impracticably cumbersome would be an FLC separately computed for each category of investment. The best course for now is to retain the FLC but to adjust it on the basis of the information now available.)

Finally, use of the FLC to avoid double counting the effects of TELRIC requires being sure that the remaining "single count" is not understated. To that end, expense adjustments should be rigorously applied where warranted. These include the productivity adjustment previously discussed, as well as others considered below.

3. Removal of Retail Avoided Costs⁹⁶

Consistent with the premise of the FCC's UNE pricing regulations (since called into question by the Eighth Circuit's decision), Verizon's studies reflected the assumption that Verizon was a purely wholesale company and therefore sought to remove avoidable retail costs from consideration.⁹⁷ Verizon

⁹⁶ This heading considers Verizon's effort to remove retail avoided costs from its ACF calculations generally. A separate question, discussed below, relates to whether retail activities were properly removed in determining the wholesale marketing ACF.

⁹⁷ The FCC required removal of "avoidable" retail costs, while the Eighth Circuit determined that the 1996 Act called only for removal of "costs that are actually avoided," a lesser amount, and rejected the premise that the ILEC would become a wholesale-only provider. Verizon notes that these aspects of the Eighth Circuit's decision were not stayed by the Supreme Court's grant of certiorari and argues that the Commission must take them into account; it reserves its right to submit, after the Commission's decision, a revised study that develops avoided costs in a manner consistent with the Eighth Circuit. As the CLEC Alliance notes, however (Reply Brief, pp. 18-19), the Eighth Circuit's decision pertained to resale rates, not UNEs. Extending it to the calculation of excluded retail costs for purposes of UNE pricing may have the

contends that it conducted a full review of each expense category to determine those that would be avoided in a wholesale-only environment and that its study is more detailed than the study used to determine the avoided cost percentage for purposes of setting the wholesale rate in the Resale Phase of the First Elements Proceeding.

AT&T argues that Verizon should have excluded Universal Service Fund contributions, which are assessed on the basis of retail end-user revenues and therefore would not be incurred in a wholesale-only environment. It suggests that other access-related charges should be excluded as well, but in the absence of information needed to assess their magnitude offers no adjustment on their account; it therefore regards its approach as conservative.

In Verizon's view, the hypothetical wholesale-only environment would likely involve changes in the Universal Service Fund, and it is unlikely that Verizon and other ILECs would be relieved of responsibility for universal service. More fundamentally, it emphasizes the Eighth Circuit's rejection of the wholesale-only premise that underlies the exclusion of Universal Service Fund expenses.

AT&T has not addressed itself to the effect of the Eighth Circuit's approach on its Universal Service Fund adjustment, and Verizon has not presented any estimate of how that decision would affect its figures. The parties may address themselves to this issue further in their briefs on exceptions; for now, Verizon's retail adjustment will be adopted as a placeholder.

4. ACF Versus CCF

As noted, Verizon's ACF method, in contrast to the CCF mechanism used in the First Proceeding, assigns some costs and expenses not on the basis of investment but on the basis of

benefits of consistency, but the CLEC Alliance presents arguments, on which judgment can here be reserved, against doing so.

expenses or revenues. The CLEC Coalition objects to the change, urging continued use of CCFs. It is concerned in particular about the common overhead ACF, the calculation of which on an expense-to-expense basis results in the assignment of a portion of those overheads to nonrecurring charges, which, because they entail no investment, bear no assignment of common overhead under the CCF method.

Verizon sees the change as an improvement, contending that because all products and elements receive the benefit of the overhead costs, all, including nonrecurring items, should bear a reasonable portion of those costs. The CLEC Coalition, however, regards the change as a gratuitous increase in nonrecurring costs that shifts risk from the ILEC to the CLEC, in an anticompetitive manner, by increasing the upfront charges that CLECs must bear.

In its reply brief, the CLEC Coalition characterizes this as primarily a policy issue, i.e., whether CLECs should bear recurring costs as part of up-front nonrecurring charges. But Verizon argues persuasively that nonrecurring charges should bear a portion of the overhead costs from which they benefit, and the ACF method for allocating those costs appears reasonable.

Network ACF

1. Arguments

Verizon's network ACF, based on actual 1998 data that were reviewed to identify reasonably anticipatable reductions, "includes repair, rearrangement and testing expenses, as well as testing equipment capital costs, plus plant account and general network loadings."⁹⁸ In calculating the factor, Verizon assumed a reduction in "R dollars," the costs associated with subscriber troubles, on the premise that such troubles would diminish with the placement of newer copper plant. It did not reduce "M dollars," the expenses attributable to rearrangements associated with customer moves, municipal requirements, and network

⁹⁸ Verizon's Initial Brief, p. 54.

upgrades, seeing no basis for assuming that such costs would decline.

AT&T charges that the network ACF should have been adjusted to remove excessive repeat repair costs, which result from poor workmanship and inefficient processes that should be assumed away in a TELRIC context. On the basis of Verizon's service quality reports, AT&T calculates a repeat repair rate of approximately 16%, and it proposes to remove the associated costs from the network ACF. It contends its adjustment may be understated because it eliminated only estimated direct costs associated with certain plant accounts and did not extrapolate potential cascading cost effects of repeat repairs and poor work quality. The CLEC Coalition notes that the repeat repair adjustment should be in addition to any productivity adjustment.⁹⁹ Verizon contends, however, that repeat repairs are often attributable to causes other than error and poor workmanship.¹⁰⁰ In any event, it says, the TELRIC construct does not presume perfect performance, and the costs of repeat repair will continue to be incurred in the future.

The CLEC Alliance argues, more generally, that the network ACF is inflated because its numerator (costs) fails to reflect the reduced cost of maintaining new equipment while its denominator (investment) is based on the net book cost of depreciated equipment, much lower than the cost of investment in new equipment required under TELRIC. To correct for the overstated numerator and understated denominator, the CLEC Alliance proposes to reduce the network ACF by 25% (after removal of the FLC factor). It contends that Verizon "is attempting to have it both ways in its effort to recover the increased cost for new, more efficient equipment, and at the same time recover maintenance costs that would be associated with old and increasingly obsolete equipment."¹⁰¹ The CLEC

⁹⁹ CLEC Coalition's Initial Brief, p. 31.

¹⁰⁰ Tr. 3,314, citing AT&T's acknowledgement of that in an interrogatory response.

¹⁰¹ CLEC Alliance's Initial Brief, p. 12 (emphasis in original).

Alliance disputes Verizon's suggestion that advanced technology will not necessarily reduce repair costs and that increased sophistication of the technology in fact makes repair related problem solving more complex; according to the CLEC Alliance, new technology yields many efficiencies, including reduced maintenance costs. It contends that Verizon has failed to meet the burden of proving its claim that maintenance costs will not decline over time.

In a similar vein, WorldCom cites suggestions by the Commission in the First Proceeding and by Staff in the organizational stages of this case that a new, optimally designed network would incur lower maintenance costs than the existing network. WorldCom contends that the use of fiber feeder and electronics permits rapid expansion of capacity without costly rearrangements, through the use of line cards, and it cites a claim by regional Bell operating company SBC that new loop infrastructure "will substantially reduce the need to rearrange outside plant facilities when installing new or additional services."¹⁰² WorldCom urges that M dollars be reduced by 50% to recognize these considerations, as recommended by AT&T's witness.¹⁰³

Verizon responds that it regularly removes obsolete, high-maintenance equipment from its network, thereby avoiding excessive maintenance costs; that the inclusion of depreciated plant in the current investment base does not overstate expense; and that the CLEC Alliance's 25% reduction in the ACF and WorldCom's 50% reduction in "M dollars" are arbitrary and unsupported. It claims to have explained in detail why there would be no reduction in "M dollars"--moves and rearrangements--in a TELRIC future.¹⁰⁴

In a more specific point, WorldCom charges that Verizon's network ACF is overstated because of a diminution in

¹⁰² Exhibit 393, p. 7.

¹⁰³ Tr. 1,242-1,243.

¹⁰⁴ Verizon's Reply Brief, p. 36, citing Tr. 2,378.

the adjustment--the copper repair adjustment factor (CRAF)--designed to eliminate recovery of expenses associated with repairing deteriorated copper plant. In the First Proceeding, the "deteriorated copper repair reduction," an important portion of the CRAF, was set at 60%; Verizon here proposes to reduce it to 35% and thereby reduce the overall CRAF from 42% to 25%. The 35% deteriorated copper repair reduction results from averaging the 60% used in the First Proceeding on the basis of a 1996 study with a new estimate of a 10% reduction that, WorldCom charges, lacks evidentiary support and is simply an unexplained estimate. The change increases repair expense recovery by approximately \$89 million, thereby wiping out the 2% productivity adjustment included in the ACF. WorldCom goes on to express outrage over Verizon's alleged failure to mention that it reduced the Phase 1 CRAF, and it urges the Commission to reverse this "surreptitious" reduction and set it at 42%.¹⁰⁵

Verizon responds that it reduced the CRAF to reflect the "commonsensical notion," missed in the First Proceeding, that newer plant already in good condition is less likely to experience large trouble rate improvements in the future. It claims as well to have supported its 10% improvement estimate, which it openly characterized in an interrogatory response as appropriate "for tracking units that would be experiencing excellent service."¹⁰⁶

2. Discussion

Turning first to the treatment of "M dollars," Verizon has failed to refute the reasonable expectation, expressed by both the Commission and its staff and seemingly adopted by SBC in the document reproduced in Exhibit 393, that moves and rearrangements will be less costly in a forward-looking system. Verizon's testimony says only that "even if...has in place an optimally designed network, it will still be required to

¹⁰⁵ WorldCom's Initial Brief, pp. 54-57.

¹⁰⁶ Verizon's Reply Brief, p. 34, n. 80.

reconfigure its facilities to reflect new municipal ordinances and movement of customers."¹⁰⁷ That, of course, is true; but Verizon fails to address itself to the extent to which those activities will be less costly than they have been in the past and to the efficiencies cited by SBC. The 50% adjustment to "M dollars" proposed by WorldCom is not specifically supported and seems high; a 30% adjustment should be used unless parties can show on exceptions that a different figure is warranted. Making this adjustment also resolves the CLEC Alliance's concern about the alleged mismatch between the numerator and denominator of the ratio: consistent with the general approach with respect to ACFs, the numerator is forward-looking while the denominator reflects historical plant investment.¹⁰⁸

Verizon correctly argues that repeat repairs cannot be attributed exclusively to a shoddy initial effort, as AT&T would imply. But there can be little doubt that at least a portion of such repairs do flow from difficulties associated with the initial work; and Verizon's carrier-to-carrier metric reports, which refer, among other things, to installation troubles, bear out that inference. Finally, Verizon's adjustment to the CRAF was neither surreptitious nor unexplained, and it makes sense in concept. The specific 10% figure is inadequately supported, however, since there is no reason for assuming that all equipment will have as small an improvement as the best-performing units; there are bound to be some whose improvement rates will be greater. In the absence of a better estimate, and recalling that Verizon bears the burden of proof, a current estimate of 25% should be substituted for Verizon's 10% and averaged with the 60% of the First Proceeding.

¹⁰⁷ Tr. 2,378.

¹⁰⁸ As already noted, my recommended approval of the FLC, which is premised on avoiding any double counting of TELRIC adjustments that may result from their presence in both the numerator of the ratio and the investment base to which it is applied, makes it even more important to ensure that the numerator reflects all forward-looking cost reductions.

Other Support ACF

The "other support" ACF recovers expenses related to information management, research and development, and procurement as well as expenses and capital investments associated with various non-revenue producing investments such as motor vehicles and general purpose computers. The CLEC Alliance objects to this recovery of shared costs through an annual cost factor applied to capital investment, arguing that the shared costs are also related to expenses¹⁰⁹ and "should not differ proportionally based on investments."¹¹⁰ The CLEC Alliance characterizes this ACF, as applied by Verizon, as a "capricious and arbitrary ACF cost booster,"¹¹¹ and it urges application of this factor, like the common overhead factor, to expenses rather than to investments.¹¹²

Verizon responds that nearly all expenses recovered through the other ACFs similarly relate in part to expense as well as investment, but that application of a factor to investment is an accepted and fair way to recover the costs.

Verizon's response is persuasive; there is no need to modify this ACF.

Wholesale Marketing ACF

The wholesale marketing ACF captures the expenses of "advertising, product management and customer interfacing functions."¹¹³ Verizon claims to be seeking recovery only of the

¹⁰⁹ CLEC Alliance's Initial Brief, p. 21.

¹¹⁰ Id., p. 22.

¹¹¹ Id., p. 23.

¹¹² The CLEC Alliance's position in this regard appears to be opposed to that of the CLEC Coalition, which objects, as noted above, to assignment of the common overhead factor on the basis of expenses and urges continuation of the previous practice of assigning those expenses, too, on the basis of investment.

¹¹³ Verizon's Initial Brief, p. 59.

costs that would be incurred in a wholesale market, contending that it eliminated retail avoided costs. CLECs urge reduction or elimination of all advertising costs as well as reduction of product management costs.

AT&T characterizes as "absurd" the recovery of any advertising expenses, contending that allowing it requires CLECs to pay twice for advertising--once to Verizon and once through their own advertising channels.¹¹⁴ It notes that the Commission in the First Proceeding required Verizon to treat 90% of its advertising expenses as retail avoidable, asserts that Verizon has never advertised UNEs,¹¹⁵ and contends that the full page ads in Telephony magazine that Verizon had cited as being directed to wholesale customers promoted services other than UNEs. WorldCom argues to similar effect, noting that Verizon has not advertised UNEs or placed brand awareness or market stimulation advertising related to UNEs; it asserts that Verizon's continuing bottleneck monopoly over local exchange facilities largely negates any incentive to advertise and that advertising to stimulate additional CLEC market activity could lead Verizon to lose additional retail customers. It cites Verizon's statement at the hearing that it had not found such advertising to be warranted by cost/benefit analysis.¹¹⁶ The CLEC Alliance adds that brand awareness campaigns--analogous to Intel's "Intel Inside" stickers on computers--would be inapposite here, and that Verizon in fact forbids its CLEC customers to use its trademark, inasmuch as the CLEC is its retail competitor as well as its wholesale customer.¹¹⁷ Z-TEL argues to similar effect, characterizing the wholesale marketing costs as speculative.

Verizon takes a very different view of advertising, challenging as an improper "backward look" the CLECs' emphasis on the fact that Verizon is not now conducting wholesale

¹¹⁴ AT&T's Initial Brief, p. 61.

¹¹⁵ Tr. 5,205-5,207.

¹¹⁶ WorldCom's Initial Brief, p. 65, citing Tr. 5,215.

¹¹⁷ CLEC Alliance's Initial Brief, p. 16.

advertising. It contends that in the fully competitive market contemplated by TELRIC, in which Verizon would be an exclusively wholesale provider, it would undertake market stimulation advertising, brand awareness advertising, and advertising to CLECs themselves. It points to the Commission's historical allowance of advertising costs even to pre-competitive utilities and to the need to distinguish Verizon's products from those of other providers of wholesale services. It asserts as well the need to advertise to CLECs themselves, citing the advertisements already placed by alternative providers of telecommunication services in the trade press,¹¹⁸ and it notes that, since the close of the hearings, it has placed advertisements in trade journals extolling its own network services in contrast to those of other providers. It adds that the wholesale-only premise, and the inquiry into whether the costs at issue are retail-avoidable, are inconsistent with the Eighth Circuit's decision. In its view, the decision means that the pertinent inquiry is into "whether Verizon, as a company engaged in both retail and wholesale operations, would actually avoid particular costs."¹¹⁹

With respect to product management expense, Verizon regarded 49.73% of the account to be retail-avoidable. AT&T and the CLEC Alliance regard that figure as greatly understated, contending that a detailed review of function codes suggest a much higher avoidable percentage. Pointing for example to the expense of maintaining tariffs, AT&T contends that Verizon's retail tariffs far outweigh in volume its wholesale tariffs, and the CLEC Alliance suggests that even wholesale tariffs include restrictive provisions whose purpose is not to incur wholesale sales but to assist Verizon's retail operations. They suggest that 90% of product management expenses be treated as retail-avoided.¹²⁰

¹¹⁸ Verizon's Initial Brief, p. 62, citing Tr. 3,323-3,324.

¹¹⁹ Verizon's Reply Brief, p. 45 (emphasis in original).

¹²⁰ AT&T's Initial Brief, p. 63; CLEC Alliance's Initial Brief, p. 18.

Verizon regards the 90% figure as arbitrary inasmuch as it is based on no workpapers or data, and it insists that the product management costs that remain after its own 49% adjustment--an excessive adjustment under the Eighth Circuit decision, it adds--will continue to be incurred in a wholesale environment. They include not only tariff-related costs but also the costs of meeting CLEC customers and responding to their questions. It notes, for example, AT&T's admission in an interrogatory response that Verizon's wholesale network services group meets regularly with AT&T representatives,¹²¹ and it sees no record basis for assuming that this group and its resulting costs will disappear in the future.

Finally in this regard, the CLEC Alliance objects to the recovery of operator services and directory assistance(OS/DA) costs through UNE rates, noting that OS/DA is not a UNE itself and that Verizon is proposing to offer and price it as a non-regulated service. It contends that Verizon has treated zero percent of OS/DA costs as retail avoided, which incorrectly assumes that all CLECs will use Verizon's OS/DA services and thereby drives up the costs of UNEs for CLECs that do not use OS/DA services. CLECs that choose to take Verizon's OS/DA services will pay for it separately, and the associated costs, says the CLEC Alliance, should not be recovered through UNE ACFs generally.

Verizon makes a strong case for its position on product management expense. Given the continuing need to work with its CLEC UNE customers, as demonstrated by ongoing activities of that sort, I see no basis for assuming a greater portion of these costs to be avoided.

Advertising is another matter. It may overstate the case to say no advertising costs would be incurred in a wholesale-only environment, and Verizon appears to have begun at least some advertising of its network to UNE purchasers. But the factors that warranted treating 90% of these costs as retail

¹²¹ Tr. 3,326.

avoidable remain, for the most part, in place; among other things, there is little reason to anticipate brand awareness campaigns. In view, however, of the advertising that is now underway, the disallowance should be reduced to 85%.

The CLEC Alliance makes a valid point with respect to not imposing OS/DA costs on CLECs that choose not to take those services from Verizon. Verizon's silence in response may indicate agreement; in any event, its proposed rates already distinguish between CLECs that take OS/DA service and those that do not, so no further adjustment is needed on that account.

Finally, parties may use their briefs on exceptions to present, in greater detail, their views on the implications of the Eighth Circuit's decision for this issue.

Common Overhead ACF

"The common overhead ACF reflects common overhead expenses, SPE [Special Pension Enhancement] or equivalent expenses[,] and savings from the Bell Atlantic/NYNEX merger."¹²² The three components are discussed separately.

1. Common Overhead Expenses

Common overhead expenses are those associated with activities, previously designated as "general and administration (G&A) functions," including executive, planning, general accounting and finance, external relations, legal, and human relations. In contrast to the First Elements Proceeding, where these expenses were recovered through an expense-to-investment factor, Verizon here proposes to recover them through an expense-to-expense ratio; as noted, the principal practical effect of the change is to allocate a portion of these expenses to nonrecurring charges, which are calculated on the basis of expense rather than investment.

WorldCom contends that historical one-time expenses (such as those related to Y2K concerns) should be excluded from

¹²² Verizon's Initial Brief, p. 63.

the overhead deemed recoverable in a TELRIC calculation and that the FCC has so held in its Universal Service Proceeding.¹²³ It recommends application of an adjustment comparable to the 20% adjustment that the FCC there applied to the executive, planning, and G&A overheads in Account 6700. Verizon responds that WorldCom has not shown that its proposed adjustment is comparable to the FCC's and that, in any event, WorldCom misreads the FCC's Universal Service Proceeding decision, which does not address the pricing of UNEs. In contrast, it continues, the Local Competition Order establishes the right of ILECs to recover the reasonable costs they will incur; that principle was affirmed in the recent decision in WorldCom's lawsuit growing out of the First Elements Proceeding and other Commission actions¹²⁴; and WorldCom has not shown that Verizon will experience a 20% reduction in these expenses. With specific reference to Y2K costs, Verizon reiterates its earlier claim that they served to defer the incurrence of costs for other planned projects.

The CLEC Alliance urges that lobbying, legal, and regulatory costs be removed from the overhead calculation, characterizing as "irrelevant" Verizon's claim that lobbying costs are "below the line" and not used in developing ACFs.¹²⁵ It regards such legal efforts and lobbying as inevitably adverse to CLEC's interests and as benefiting Verizon's retail offerings. Verizon responds that lobbying expenses are not included and characterizes as "frivolous on its face" the suggestion that legal and regulatory costs should be excluded, contending they are necessary costs of operation that all companies recover in their prices.¹²⁶

¹²³ WorldCom's Initial Brief, p. 61.

¹²⁴ Verizon's Reply Brief, p. 43, citing MCI Telecommunications Corp. v. New York Telephone Co., No. 97-CV-1600, slip op. p. 22 (N.D.N.Y., March 7, 2001). That decision is discussed further below.

¹²⁵ CLEC Alliance's Initial Brief, p. 25.

¹²⁶ Verizon's Initial Brief, pp. 68-69.

While the 20% adjustment is unsupported and the Universal Service Order may be inapposite, Y2K expenses are inherently a one-time event. And while it is certainly possible that the deferral of other projects avoided an overall cost balloon in the year in which they were incurred, Verizon, though bearing the burden of proof, has not shown that to be the case. The common overhead ACF should be recalculated to exclude costs related to Y2K efforts; Verizon should include, in its brief on exceptions, an estimate of those costs.

The CLEC Alliance's proposal should be rejected. As Verizon notes, the lobbying expenses are already excluded, and reasonable legal and regulatory expenses are necessary and allowable costs of doing business.

2. Special Pension Enhancement

This venerable issue involves Verizon's proposal to recover certain costs associated with offering enhanced retirement benefits in order to reduce its workforce. In Phase 3 of the First Proceeding, the Commission denied Verizon's request to recover some \$387 million of such costs. It cited procedural grounds, related to the timeliness of the claim; and substantive grounds, including, among other things, the need to recognize possible offsetting savings. Despite that denial, it authorized renewed consideration of the issue in this proceeding, albeit on a prospective basis only, and it added, in response to AT&T's request for rehearing, that Verizon bears the burden of showing any allowance to be procedurally and substantively proper.¹²⁷

In the present proceeding, Verizon seeks to recover some \$400 million of SPE, a figure based on the average of 1998-1999 SPE expense, adjusted to remove avoidable retail costs. It argues that its cost studies already reflect a very optimistic

¹²⁷ Phase 3 Opinion, pp. 21-22; Phase 3 Rehearing Opinion, pp. 6-7. A full discussion of the issue's background appears in the Phase 3 Recommended Decision (issued October 2, 1998), pp. 18-20.

view of possible offsetting savings but that these savings "can be realized only if Verizon continues to restructure its workforce in the same way that it has in the recent past. Such restructurings necessarily require the expenditure of SPE costs."¹²⁸

AT&T objects to recognition of SPE costs, regarding such recognition as contrary to both TELRIC and Commission precedent and characterizing the costs as ones "that Verizon must absorb to rid itself of excess inefficient layers of management and union employees in order to compete effectively in the future"; such costs would not be incurred by an efficient forward-looking company.¹²⁹ It contends that the anticipated savings recognized by Verizon provide only a 1.55% reduction in UNE costs while the SPE recovery increases those costs by 4.96%, and it cites the suggestion by Department of Public Service Staff, in a White Paper issued in another proceeding, that Verizon has understated the cost savings that will result from mergers.¹³⁰ AT&T insists that "CLECs should not be required to pay for Verizon's inability to develop, and retain, a properly sized, efficient workforce."¹³¹

Similar arguments are offered by the CLEC Alliance and CLEC Coalition, which stress that the employees to be cut would never have been present in a TELRIC construct and object to allowing Verizon to recover the cost of needed downsizing from its competitors, who must themselves reduce their workforces.¹³² The Alliance calculates that removal of the SPE would reduce the overhead loading from 11.9581% to 6.0987%,¹³³ and the Coalition

¹²⁸ Verizon's Initial Brief, p. 64.

¹²⁹ AT&T's Initial Brief, p. 54.

¹³⁰ Case 00-C-1945, Verizon New York, Inc. - Cost Recovery and Future Regulatory Framework, Staff White Paper (released January 2, 2001).

¹³¹ AT&T's Initial Brief, p. 56.

¹³² CLEC Alliance's Initial Brief, p. 27.

¹³³ Id., p. 28.

argues that Verizon has failed to demonstrate that the 1998-1999 average cost is typical of what can be expected in future years. It suggests that these are transition costs best viewed as an investment or capital loss, which, if recovered at all, should be recovered over an extended period that allows the matching of benefits to the costs. WorldCom argues in a similar vein, charging that "[Verizon] has long been one of the most inefficient of the larger ILECs in the United States," and that CLECs should not fund its efforts to increase its efficiency.¹³⁴ It notes as well that firing employees would avoid the need for SPE payments. Z-TEL argues to similar effect.

Verizon's position on the item stresses the need for any corporation in a dynamic environment to restructure its workforce on a regular basis, and Verizon disputes what it characterizes as AT&T's view that TELRIC requires the assumption of a totally static situation. It argues that retirement incentives are commonly used in connection with restructuring workforces and that AT&T itself has restructured its workforce on a number of occasions without claiming that the steps are needed to remove excess and inefficient layers of employees. Verizon asserts that competitive forces will, if anything, require more such restructurings in the future and that there is no reason to assume that the costs would be avoided in a TELRIC construct. It maintains that AT&T has taken too narrow a view of the savings to be compared with the SPE expense (which should include, as well, the overall productivity adjustments); that there is no basis for assuming that firings could have been an equally effective way to restructure Verizon's workforce; and that data for the six years from 1994 through 1999 confirm the reasonableness of the amount included in Verizon's study.¹³⁵

In the competitive environment contemplated by TELRIC, companies may incur early retirement incentive costs, as Verizon

¹³⁴ WorldCom's Initial Brief, p. 60.

¹³⁵ The data are set forth in Exhibit 410, CC-VZ-154 (Revised Supplemental Response).

maintains; and the costs to be allowed here, if any, should reflect the normal level of costs that Verizon could be expected to incur in that environment. Verizon seeks \$400 million of costs, roughly the average of its 1998 and 1999 actual costs, and it cites data going back to 1994 to confirm the reasonableness of those figures. But the data in CC-VZ-154 show considerable variation in those costs over the years in question (and that 1998 and 1999 are the second and third highest of the six years), calling into question its reliance on the two-year average. More importantly, the six years encompass two unusual mergers--NYNEX/Bell Atlantic and Bell Atlantic/GTE--that could be expected to involve unusual levels of early retirement, as well as the transition from monopoly to competition. The CLECs' arguments about Verizon's historical inefficiency may well be overstated, but there is little doubt that regulation cannot be as effective as competition in keeping costs down. As a result, the movement from regulated monopoly to competition will likely involve a degree of workforce reduction that cannot be expected to continue in the competitive environment, and those transitional costs should not be recovered in a TELRIC construct, whose assumptions include a properly sized workforce.

Taking all these factors into account, it is impossible to conclude that Verizon has borne its burden of proving the level of SPE payments it could be expected to incur in a forward-looking TELRIC environment. Its claim for \$400 million should be rejected, and there is no basis on this record for identifying some lower amount. (The factors noted above are significant enough to sustain a qualitative judgment that the actual amount is likely to be closer to zero than to \$400 million.) In addition, as already noted, allowance of the FLC adjustment requires special diligence to be sure that all forward-looking expense reductions are properly reflected. Accordingly, SPE recovery should again be denied.

3. Merger Savings

Verizon asserts that the common overhead ACF reflects the savings associated with the NYNEX/Bell Atlantic merger that were presented in its filing of December 22, 1999 in Case 95-C-0657, adjusted to remove retail costs and in certain other respects.¹³⁶ It objects to reflecting further savings associated with the Bell Atlantic/GTE merger, contending that it is too early to tell what percentage of those savings should be attributed to New York intrastate regulated operations and, in any event, whether further adjustments are needed in light of the productivity already recognized.

AT&T disputes Verizon's view that it is premature to reflect Bell Atlantic/GTE merger savings, noting potential sources of such savings, but it does not attempt to adjust Verizon's presentation on their account and simply suggests "it would not be inappropriate" for the Commission to do so.¹³⁷ The CLEC Alliance asserts that the Bell Atlantic/GTE merger will lead to reduced corporate overhead expenses, including those associated with the departure of senior executives, and it cites the Commission's statement in approving the Bell Atlantic/GTE merger that a portion of the merger savings should redound to the benefit of New York consumers. It offers no specific estimate but asks the Commission to require further reductions in UNE rates to recognize additional merger savings. WorldCom notes the stated expectation, in a 1998 annual report, that the Bell Atlantic/GTE merger will yield annual expense savings of \$2 billion by the third year following completion of the merger. It recommends a reduction of 3.57% in the common overhead ACF to reflect Bell Atlantic/GTE merger savings, consistent with the

¹³⁶ The December 22, 1999 filing was made pursuant to the Commission's Phase 2 decision to disallow certain development costs pending a showing that the conditions imposed in authorizing the NYNEX/Bell Atlantic merger, including the flowing through to customers of the merger savings, had been met. Those issues are now being considered in Case 00-C-1945.

¹³⁷ AT&T's Initial Brief, p. 66.

adjustment in the HAI Model;¹³⁸ the CLEC Alliance advocates a similar adjustment. The Federal Agencies argue that substantial savings provide the only rational justification for the Bell Atlantic/GTE merger, and that there is no reason not to reflect a reasonable estimate of savings in the rates set here.

Verizon responds that its studies were completed before the closing of the Bell Atlantic/GTE merger, and that it will provide an estimate of the savings in Case 00-C-1945, where the matter is being addressed.

There can be no doubt that an estimate of savings associated with the Bell Atlantic/GTE merger should be reflected in the rates set here. Verizon should include an estimate of those savings in its brief on exceptions (which will be due following the date for Verizon's submission in Case 00-C-1945), and all parties should comment on how to reflect those savings, given that rates likely will be set in this case before the conclusion of Case 00-C-1945.

¹³⁸ WorldCom's Initial Brief, p. 63, citing Tr. 1,259-1,262.

Depreciation ACF

In Phase 1 of the First Elements Proceeding, the Commission determined that the depreciation lives to be used in estimating UNE costs should be those set for Verizon's predecessor in the FCC's triennial represcription process. Citing both the Local Competition Order's presumption in favor of the prescribed rates and Verizon's failure of proof, it rejected Verizon's proposal to use shorter depreciation lives based on generally accepted accounting principles. It held that the prescribed lives to be used should be those recommended by [the] Commission for New York Telephone, consistent with the FCC's mandate, for intrastate purposes, rather than the lives prescribed by the FCC for Bell Atlantic's Maryland subsidiary, as the Hatfield Model proponents had urged.¹³⁹

Early in the present proceeding, as part of its efforts to assist the parties in identifying issues, Staff stated, in pertinent part, that

the Commission decided in [the First Elements Proceeding] that TELRIC depreciation rates should be based on depreciation lives used in calculating booked depreciation on a regulatory basis. If the service lives for [Verizon's] plant changed since rates were set in [the First Proceeding], the new service lives and depreciation rates should be used in developing TELRIC element costs.¹⁴⁰

Claiming consistency with the Commission's earlier decision and Staff's guidance, Verizon urges use of the depreciation lives adopted by the Commission for regulatory purposes effective January 1, 1998. AT&T disputes that claim and urges use of the longer lives (and consequently reduced depreciation cost) set by the FCC in 1995

The depreciation rates that went into effect for regulatory purposes on January 1, 1998 did so, pursuant to the

¹³⁹ Phase 1 Opinion, pp. 47-48; Phase 1 Rehearing Opinion, pp. 55-56.

¹⁴⁰ Staff Memorandum dated August 11, 1999, quoted at Tr. 3,360 and in Verizon's Initial Brief, p. 69.

process called for by Verizon's Performance Regulatory Plan (PRP), following review by Staff. According to Verizon, its cost studies therefore reflect the depreciation lives used for regulatory purposes, using service lives that have changed since rates were set in the First Proceeding, and thus comply with the Staff Memorandum.

AT&T objects, contending, first, that Verizon has simply failed to support its depreciation proposals with the specificity required by the FCC.¹⁴¹ It contends further that the rates are inconsistent with the Commission's determination in the First Proceeding, which required use of the depreciation rates "most recently prescribed for Verizon"; those, according to AT&T, remain those adopted in Opinion No. 97-2 rather than the much shorter lives here proposed. AT&T notes as well that Staff questioned the rates filed in 1998 and suggested that a full study conducted without the constraints of the PRP might not have reduced depreciation lives to the extent there proposed by Verizon.

AT&T goes on to support its own proposals on the basis of its witness Lee's testimony. It argues that forward-looking pricing requires the use of economic depreciation rates based on the expected economic lives of newly placed plant, and Mr. Lee explained how the FCC's depreciation prescription process had become more forward-looking and offered what he regarded as empirical evidence of that development. AT&T argues as well that Verizon's witness on the subject of depreciation was not a qualified expert, and it disputes his argument that the FCC lives, initially prescribed in 1995, were no longer valid. It notes that the FCC renewed its prescribed life ranges in 1999 and stated then that the lives were appropriate for use by state commissions in establishing UNE prices. AT&T points as well to the use of the FCC depreciation lives in other jurisdictions, each of which, according to AT&T, regarded those lives as forward-looking and appropriate for TELRIC purposes. The CLEC

¹⁴¹ AT&T's Reply Brief, p. 57, citing Local Competition Order ¶702.

Alliance argues to similar effect, stressing that the rates advocated by Verizon were accepted by Staff in 1998 only in the context of the PRP, and alleging misrepresentation in Verizon's argument that the rates are consistent with those approved for UNE pricing in Opinion 97-02.

Verizon, for its part, sees the question of whether the FCC's depreciation lives are forward-looking as largely irrelevant. It emphasizes that the FCC rates favored by AT&T were set more than six years ago on the basis of even older data and that the Staff Memorandum, like the Commission's order in the First Proceeding, recognized that the PRP provided a mechanism for changing intrastate regulated depreciation lives and that such changed lives should be used in UNE studies. It notes that there was no traditional triennial represcription in 1998 and that the FCC therefore did not review in any detail the continued adequacy of the 1995 rates. It regards as true but irrelevant that the FCC's represcription process has become more forward-looking over the years, and it insists that AT&T has failed to explain why interstate depreciation lives adopted by the FCC in 1995 are better than intrastate depreciation lives accepted by the Commission in 1998. Arguing that the PRP anticipated a continued shortening of depreciation lives in light of the development of competition, Verizon maintains its 1998 study is consistent with that expectation.

Verizon disputes as well the charge that it failed to present a presentation on depreciation, contending that its witness Minion had more relevant expertise than Mr. Lee; that it was not obligated to submit a full-blown depreciation study in view of its reliance on the 1998 effort; and that it has met its burden of overcoming any presumed reliance on the FCC's represcribed rates, given its compliance, consistent with Staff's memo, on the specific process followed in New York. It suggests that the jurisdictions that relied on the FCC's prescribed rates did so in the absence of state-specific alternatives or at a time when the FCC's rates were less stale.

The key to this issue is whether the service lives adopted in 1998 under the PRP are, in fact, changes that should be taken into account pursuant to Staff's August 1999 memo in this case. Two considerations suggest they are not. First, Staff's report on its review of those service lives expresses important reservations:

Although Staff has reviewed the company's proposals with respect to the benchmark established in the PRP, we did not conduct a full study in the traditional sense and, therefore, have made no recommendations regarding the appropriateness of the company's depreciation parameters in the context of this study. Staff believes that if a full study were conducted without the constraints of the PRP, although we may have recommended reducing projection lives somewhat for certain accounts in the central office and outside plant categories, it does not appear likely that lives would have been reduced as low as those proposed by the company. Likewise, future salvage factors would have correlated more closely to actual salvage experience than those proposed by the company.¹⁴²

Verizon ignores these important qualifications, which suggest strongly that the service lives set in 1998 should not be treated as typical regulatory service lives to be applied here as Verizon proposes. They reflect the special circumstances and constraints of the PRP, and, unlike the 1995 lives, they are not based on a thorough analysis of Verizon's construction program, technological advances, competition, and other factors affecting service lives. Beyond that, the 1998 changes predate Staff's August 1999 memo, and if Staff contemplated using those rates here, it could have said so.

¹⁴² Letter to Robert Welsh, Bell Atlantic Network Services, from Dennis F. Taratus, Chief-Dominant Carrier Performance, dated June 24, 1999.

Verizon is right to express concern that the 1995 data may be going stale and to stress the superiority of New York-specific service lives. But the staleness has not been demonstrated, and the FCC's 1999 action, though not a full-scale represcription, warrants continued confidence in the 1995 rates. Meanwhile, the benefits of New York specificity can be realized by continued use of the depreciation rates actually used in the First Elements Proceeding, and that is my recommendation.

COST OF CAPITAL

Overview

Cost of capital presentations were made by Verizon and by AT&T jointly with WorldCom. Verizon proposed a figure of 12.6%, which it regarded as conservative in light of its study's conclusion that a forward-looking weighted average cost of capital related to the supplying of UNEs would be in the range of 13.03% to 13.38%. AT&T/WorldCom estimated the weighted average cost of capital to be in the range of 9.17% to 9.91%.

The parties differed little in their estimates of the cost of debt, but they held very different positions regarding the cost of equity and the capital structure. The differences reflect in part Verizon's view that it should be seen as a fully competitive enterprise subject to all the associated risks and entitled to a correspondingly higher return on investment and AT&T/WorldCom's contrary view that an incumbent local exchange company remains an inherently less risky operation.

Verizon witness Vander Wiede calculated a cost of equity of 14.78%, based on a discounted cash flow (DCF) analysis of a proxy group comprising the companies included in the Standard and Poors (S&P) Industrials, and a debt cost of 7.77%. It contemplated a debt/equity ratio in the range of 25%/75% to 20%/80%; the former implied an overall capital cost of 13.03%, while the latter implied 13.38%. In its studies, it used a figure of 12.6%, equal to the figure it uses in its own business

decisions;¹⁴³ in light of Dr. Vander Wiede's calculations, it regarded that figure as conservative.

AT&T/WorldCom witness Hirshleifer calculated an equity cost of 10.42%, averaging the results of a DCF analysis of a proxy group comprising the regional Bell holding companies and the larger independent telephone companies (10.24%) and a capital asset price model (CAPM) analysis (10.6%). It envisioned a capital structure ranging from 54% debt/46% equity to 20% debt/80% equity and an overall cost of capital (assuming a debt cost of 7.86%) ranging from 9.17% to 9.91%; the midpoint of that range is 9.54%.¹⁴⁴

As a point of reference, it may be noted that the Commission in the First Proceeding adopted a weighted average overall cost of capital of 10.2%, reflecting a cost of equity of 12.1% and a debt/equity ratio of 40%/60%.¹⁴⁵ The decisions underlying that result are discussed below, to the extent pertinent.

Verizon's Presentation

Verizon argues that the cost of capital, no less than other costs, must be determined on a forward-looking basis that contemplates a competitive market, and it criticizes AT&T for inconsistently assuming, in this one area only, a backward-looking market in which Verizon is a near monopolist enjoying the lower cost of capital associated with its lower risk. It charges that AT&T in effect advocates a traditional, regulated, non-TELRIC approach to cost of capital, taking account of book values of debt and equity rather than economic or market values.

Verizon's witness Vander Weide analyzed the risk of providing unbundled network elements in New York. He found relatively high levels of risk associated with the business's

¹⁴³ Verizon's Reply Brief, p. 63.

¹⁴⁴ Tr. 2,292, reflecting the updated estimates in rebuttal testimony, as slightly increased in a letter to me from AT&T's counsel dated January 31, 2001.

¹⁴⁵ Phase 1 Opinion, p. 40.

high leverage, which made it acutely sensitive to changes in revenues, and with the substantial growth of competition in the State, as evidenced by the large number of interconnection agreements between Verizon and its competitors and the competitors' provision of service to more than one million lines. Verizon cites in that regard investors' forecasts that competition will increase and derides what it characterizes as AT&T's "scare campaign,"¹⁴⁶ which attempts to blame regulators rather than AT&T's own missteps for AT&T's failure to make a go of it in the local market; it points to the successful entry of other CLECs, including WorldCom.¹⁴⁷ A third factor said to contribute to Verizon's risk is technological change, which lowers the cost of entry to competitors while endangering Verizon's ability to recover its investments. Finally, Verizon sees risk in regulation itself, which constrains Verizon's operations in comparison with those of its competitors and may require Verizon to incur costs that will not be recovered. Verizon contends that its own risk (i.e., that of Verizon-New York, the New York local exchange company) exceeds that of its parent, which has greater geographic and product diversity, better access to capital markets, and greater potential economies of scope and scale.

In light of these considerations, Verizon asserts that the overall risk it faces in offering UNEs is comparable to the forward-looking risk of the S&P Industrials, which therefore provide a reasonable proxy group to use in determining Verizon's cost of capital for purposes of offering UNEs. Applying a single-growth DCF analysis to that group yielded a cost of equity of 14.78%. In the First Proceeding, the Commission analyzed 11 companies involved in the provision of local exchange service, and Verizon's witness accordingly considered the four remaining telecommunications companies that were not the subject of pending mergers and found a 14.22% cost of

¹⁴⁶ Verizon's Initial Brief, p. 80.

¹⁴⁷ Id., pp. 81-83.

equity; use of that equity cost would produce an overall cost of capital between 12.68% and 12.99%. He believed, however, that an analysis of telecommunications companies generally would understate the forward-looking cost of equity, inasmuch as their stock prices had been bid up in anticipation of mergers while growth forecasts failed to reflect the cost savings and revenue growth potential associated with those mergers.

To determine the capital structure, Dr. Vander Wiede examined three groups of companies: the S&P Industrials, firms that offer local exchange service, and interexchange carriers. He found that the capital structure for all three sets of companies typically contained no more than 20% debt and no less than 80% equity, confirming the conservative nature of the range of capital structures he recommended. For further confirmation, he analyzed local exchange companies earnings before interest, taxes, depreciation, and amortization in order to estimate the market value capital structure of Verizon's stand alone local exchange operations; that analysis showed capital structure containing from 18% to 21% debt and 82% to 79% equity.

In the First Proceeding the Commission adopted a capital structure comprising 40% debt and 60% equity. Dr. Vander Wiede regarded that as insufficiently forward-looking (embodying only small movement from the historical capital structure of 45% debt/55% equity) and as failing to represent the capital structure of firms operating in a competitive environment.

Finally, Dr. Vander Wiede calculated a cost of debt of 7.77%, based on the average yield to maturity of Moody's A-Rated Industrial Bonds for December 1999.

AT&T's Presentation

AT&T argues that the capital intensive nature of local telephone service makes the cost of capital an important part of overall costs under TELRIC and that Verizon's inflated cost of capital will deter competition, encourage inefficient construction of bypass facilities by entrants, and generate

subsidies for the incumbent's business. It asserts that "by asking the Commission to assume a competitive market where one does not exist, Verizon is actually trying to ensure that such a market will never exist."¹⁴⁸ AT&T's witness Hirshleifer estimated a weighted average cost of capital for Verizon in the range of 9.17% to 9.91%, premised on an equity cost of 10.42%, a debt cost of 7.86%, and capital structures ranging from 54% debt/46% equity to 20% debt/80% equity.

To estimate Verizon's cost of equity, Mr. Hirshleifer applied a three-growth-stage DCF analysis to a proxy group comprising the remaining regional Bell holding companies and the larger independent telephone companies. He regarded that sample as comparable to Verizon and believed the market information related to them already reflected the onset of competition, which had long been expected by investors. Given that the overall risk associated with those companies exceeds the risk of supplying UNEs alone, AT&T regards the resulting cost of equity as conservatively high.¹⁴⁹

AT&T used a cost of debt of 7.86%. It sees no significant difference on that point from Verizon, noting that both parties' estimates may be conservatively high in their omission of short-term debt and their reference to Verizon's operations overall rather than the less risky provision of UNEs alone.¹⁵⁰

¹⁴⁸ AT&T's Reply Brief, p. 37.

¹⁴⁹ Mr. Hirshleifer also presented a capital asset pricing model (CAPM) analysis, averaging its result with that of his DCF analysis. Verizon's initial brief challenges the CAPM in various ways and AT&T's reply brief defends it against those attacks, but AT&T's own initial brief mentions it only once (at p. 143), to note without elaboration that Mr. Hirshleifer relied on it as well as on his DCF analysis. Given that posture of the parties and the Commission's historical reluctance to rely on the CAPM to estimate the cost of capital, I will not discuss the CAPM further.

¹⁵⁰ AT&T's Initial Brief, pp. 144-145.

With respect to capital structure, AT&T noted that, in general, the greater the degree of operating risk faced by a company, the greater the proportion of equity in its capital structure. It maintains that the unreasonably high level of risk contemplated by Verizon's witness led him to assume a capital structure incorporating too much equity. Mr. Hirshleifer suggested a broad range of capital structures, ranging from 54% debt/46% equity to 20% debt/80% equity. Using the midpoint of that range together with Verizon's cost of equity would reduce Verizon's calculated cost of capital to 12.16%.

Arguments

AT&T begins its analysis with ¶702 of the Local Competition Order, in which the FCC concluded that the

currently authorized rate of return at the federal or state level is a reasonable starting point for TELRIC calculations, and incumbent LECs bear the burden of demonstrating with specificity that the business risks that they face in providing unbundled network elements and interconnection services would justify a different risk adjusted cost of capital or depreciation rate. These elements generally are bottleneck, monopoly services that do not now face significant competition.

Mr. Hirshleifer's analysis emphasized this monopoly nature, and AT&T disputes Verizon's premise that its cost of capital should be set as if it were a player in a fully competitive market. It notes in this regard a statement by Verizon's own consultants that TELRIC requires an assumption that "(1) the ILEC will effectively be a monopolist in the provision of network elements for the indefinite future and (2) competitors will need to obtain such elements to compete over this timeframe."¹⁵¹

AT&T goes on to argue that ¶702 imposes on Verizon the burden of demonstrating the need for a different risk adjusted cost of capital. It notes as well that ¶702 concludes with the

¹⁵¹ AT&T's Initial Brief, p. 141, citing Exhibit 408, p. 4.

observation that the "risk adjusted cost of capital need not be uniform for all elements," and contends that Verizon's witness failed to recognize any distinction between the risk faced by Verizon in providing monopoly wholesale telephone services--the inquiry here--and the greater risk it faces in providing its competitive telephone services including far flung business ventures encompassing wireless service and investments overseas. AT&T claims that its witness Hirshleifer took account of these factors in concluding "that a risk-adjusted cost of capital for the lines of business at issue in this proceeding is undoubtedly less than Verizon's overall cost of capital based on its entire range of business activities."¹⁵²

In advocating a three-stage growth model, AT&T disparages Verizon's "analytically easy but completely unreasonable assumption that a firm's present growth rate will remain constant indefinitely. Such an assumption," AT&T continues, "would mean that a firm growing at a rate in excess of the annual growth in GDP would eventually subsume the entire U.S. economy."¹⁵³ It contends that its three-stage growth model is consistent with the "almost universally accepted principle that multi-stage models should be used when evaluating companies whose growth rate exceeds that of the economy as a whole."¹⁵⁴ Mr. Hirshleifer assumes high growth during the first five years, above-average but decreasing growth for the ensuing 15 years, and growth tracking the economy as a whole thereafter. Noting that a constant growth model applied to AT&T's proxy group of companies would increase the cost of equity by 379 basis points, AT&T contends that proponents of a single-stage model must assume, unreasonably, that the sample companies will maintain growth rates higher than the economy as a whole forever and that their stock prices will not rise to reflect that growth.

¹⁵² AT&T's Initial Brief, p. 143.

¹⁵³ Id., p. 146.

¹⁵⁴ Id.

With regard to choice of proxy group, AT&T maintains that Dr. Vander Wiede's use of the S&P Industrials rests entirely on the premise that TELRIC assumes vigorous competition but thereby conflicts with the FCC's premise that UNEs are a bottleneck monopoly service. Beyond that, the S&P Industrials comprise a very broad group of companies facing risks and opportunities far different from those confronted by Verizon or other telecommunications companies and, in AT&T's view, Verizon's witness showed no similarity between Verizon and those companies, making only "the unreasonable and speculative assumption that the advent of competition will make local providers such as Verizon as risky as the S&P Industrials."¹⁵⁵ Mr. Hirshleifer's proxy sample, in contrast, is more nearly comparable to Verizon. The unreasonably high level of risk contemplated by Verizon's witness likewise caused him to assume a capital structure incorporating too much equity.

In sum, AT&T maintains that Verizon has simply not carried its burden of proving that its business risks entitle it to the rate of return it seeks.

Verizon regards AT&T's 9.54% cost of capital as unreasonable, noting that it is below the cost of capital figure that AT&T used in 1997 in making its own investment decisions¹⁵⁶; below the 11.25% cost of capital that the FCC found to be a reasonable starting point for TELRIC calculations¹⁵⁷; and below the 10.2% figure that the Commission adopted in the First Network Elements Proceeding. Given the increased competition in New York, Verizon regards these reductions in the cost of capital as unreasonable. More specifically, it sees no basis for Mr. Hirshleifer's premise that Verizon enjoys monopoly power in the provision of UNEs, citing competitive developments in New

¹⁵⁵ Id., p. 150.

¹⁵⁶ The AT&T figure, and, accordingly, the spread between the two figures, are proprietary.

¹⁵⁷ Local Competition Order, ¶702.

York State and alleging Mr. Hirshleifer's lack of familiarity with them.¹⁵⁸

With specific reference to capital structure, Verizon disputes Mr. Hirshleifer's reference to book value capital structure (55% debt/45% equity), contending that book value capital structures are irrelevant to determining forward-looking costs. (AT&T denies using book value, explaining that Mr. Hirshleifer reflected the lower risk of the network element leasing business by choosing a capital structure at the midpoint between the market value and book value capital structures of telephone holding companies.)

Verizon disputes as well the proxy group of companies analyzed by Mr. Hirshleifer, contending that the sample size was too small, encompassing only four telecommunications companies; that all telecommunications companies are merger targets, rendering their market data unreliable for DCF purposes; and that holding companies of the sort analyzed by Mr. Hirshleifer are less risky, not more so, than the business of offering UNEs, given the holding companies' ability to diversify, to take advantage of economies of scope and scale, and to have greater access to capital markets. Meanwhile, while Verizon may face less competition than the S&P Industrials, it faces greater risk from high leverage, technological change, and regulatory policy.

Verizon goes on to note that in the First Proceeding the Commission rejected the three-growth DCF model, seeing no reason to depart from the traditionally used single-stage model. It maintains as well that Mr. Hirshleifer's DCF analysis fails to reflect the fact that dividends are paid quarterly, as did Dr. Vander Weide, nor does it provide for recovery of flotation costs. (AT&T responds that flotation costs need not be added, inasmuch as they are already accounted for the price of a company's stock, and that, in any event, Verizon has issued little stock in the past five years and appears unlikely to undertake large equity financings soon. It likewise sees no

¹⁵⁸ Verizon's Initial Brief, pp. 91-95.

need to reflect quarterly dividend payments, contending it would provide Verizon the benefit of both quarterly and monthly compounding.¹⁵⁹)

Finally, Verizon argues that AT&T's proposed cost of capital fails to pass the test of reasonableness. Noting again that AT&T used a higher cost of capital in making its own investment decisions, it contends that AT&T has an economic interest in estimating that cost of capital as accurately as possible. It argues as well that Mr. Hirshleifer's DCF method, applied to other companies, unreasonably suggests that riskier companies had lower costs of equity than less risky companies, and it disputes Mr. Hirshleifer's efforts in his rebuttal testimony, to challenge the analyses that lead to those inferences.¹⁶⁰

WorldCom and the CLEC Alliance support AT&T's cost of capital estimate, offering substantially similar arguments. WorldCom points to the frequent rejection by regulators in other jurisdictions of Verizon's competitive market assumption and emphasizes its view that Verizon remains a monopoly provider of network elements with no effective competition in the wholesale market. The CLEC Alliance similarly argues that the development of competition in the retail local exchange markets, which Verizon cites to support its assumption, has no relevance to the risk faced by a firm engaged solely in providing access to local exchange facilities at wholesale. It contends that Dr. Vander Weide's method is identical to the one rejected by the Commission in the First Elements Proceeding and that his result is compromised by the lower estimates issued by Verizon's management in connection with its recent mergers; it disputes Verizon's effort to distinguish those estimates on the basis of the purposes they are intended to serve.

Finally, the Federal Agencies advocate a capital structure of 40% debt and 60% equity, as used in the First

¹⁵⁹ AT&T's Reply Brief, pp. 54-56.

¹⁶⁰ Verizon's Initial Brief, pp. 103-106.

Proceeding. They contend the less leveraged capital structure advocated by Verizon is merely a fictional target at least for the foreseeable future, and that to shift its capital structure to that extent, Verizon would have to retire billions of dollars of debt or issue billions of dollars of equity capital. They cite in this regard the stable nature of Verizon's capital structure over the past decade and, like the CLECs, recommend a capital structure based on Verizon's books rather than a market-based structure, given Verizon's virtual monopoly in the relevant market. They add that the unreasonably high equity component in Verizon's capital structure results in an unnecessarily high allowance for income taxes.

Discussion and Conclusion

The Commission's decision in the First Elements Proceeding, which considered the issues posed here, can serve well as the starting point for analysis. With respect, first, to risk profile, the Commission (referring to predecessor corporations) said:

New York Telephone greatly strains the FCC's forward-looking concept in taking it as warrant for regarding NYNEX as comparable, for cost of capital purposes, to certain industrial firms operating in different, if fully competitive markets. One can recognize the consequences of competition in telecommunications without concluding that NYNEX will operate in the same environment and face the same risks as the S&P Industrials.

AT&T's proxy group, meanwhile, uses a group of telecommunications firms whose capital costs reflect the lower risks associated with regulation, along with the market's recognition of the onset of competition in areas traditionally seen as monopolies. The resulting figures provide a reasonable starting point for estimating NYNEX's own capital costs, since it, too, is a firm whose traditional monopoly lines of business are being opened to competition. But this starting point must be adjusted to reflect a change in NYNEX's risk profile. Accordingly, we will use AT&T's proxy group to calculate the DCF-based cost of equity (which already reflects the market's judgments regarding the effects of competition on the proxy

group companies). The historical debt/equity ratio, however, will be modified, from 45%/55% to 40%/60%, in order to bring it, and the resulting overall cost of capital, within the range of those that might characterize a communications firm such as NYNEX operating in a competitive environment we are endeavoring to promote.¹⁶¹

These observations are no less pertinent today than when first made. Verizon correctly argues that TELRIC should not be understood to contemplate a "fantasy network" that makes use of speculative technology. But neither should it be taken to require basing the cost of capital on a "fantasy marketplace," in which the provision of local telephone service is as competitive as the sale of detergent. Such a market is our goal; together with federal regulators we are fostering it; and significant progress in that direction has been made. But one cannot realistically claim that the goal will be reached with respect to local service within the next few years. With respect to UNEs, vibrant competition seems even more remote; indeed, were it achieved, there would be no need for regulators to require TELRIC pricing in the first place. Accordingly, for the reasons noted by the Commission above, I recommend use of AT&T's proxy group to determine the cost of equity. To recognize continued movement toward a competitive market, however, the capital structure should be further modified to 35% debt/65% equity.

With regard to quarterly dividends and flotation costs, the Commission rejected, "as unnecessary and contrary to precedent," Verizon's proposed treatment:

With respect to quarterly dividends, see e.g., Case 28947, The Brooklyn Union Gas Company - Rates, Opinion No. 85-15 (issued September 26, 1985), p. 52 (adjustments such as this are "unnecessarily complex refinements"). More specifically, the effects of quarterly dividend payments need not be recognized inasmuch as investors can reinvest dividends themselves and do not regard the proceeds of doing so as part of their expected return. As for flotation

¹⁶¹ Phase 1 Opinion, pp. 38-39.

costs, see e.g., Case 28947, New York Telephone Company - Rates, Opinion No. 85-17 (issued October 11, 1985), pp. 196-198 (denying flotation costs in the absence of clear evidence of contemplated stock issuance).¹⁶²

Those observations remain valid. Verizon's present arguments regarding flotation costs were rejected in the Phase 1 Rehearing Opinion,¹⁶³ and its further claims with respect to quarterly dividends have been refuted by AT&T's witness.¹⁶⁴ There is no need to modify the result otherwise reached to account for these factors.

Finally, with respect to the multi-growth DCF method, the Commission said:

. . . we have traditionally used, in rate cases, a single-growth model (or, on occasion, a two-growth model), and AT&T has shown no need to depart from that practice here. To be sure, a firm maintaining an above-average growth rate in perpetuity would, as an arithmetic truism, eventually consume the entire economy; but that absurd theoretical result has not precluded use of an above-average single growth rate in the past¹⁶⁵ and need not be of any greater practical concern here. Among other things, New York Telephone properly notes that stock repurchases reduce growth in total dollar earnings, and its witness Vander Weide pointed out that dividends more than 20 to 25 years out have little effect on a firm's stock price and that use of a single-stage, above average growth factor requires assuming only that above-average growth can be sustained for 20 or 25 years.¹⁶⁶

¹⁶² Id., p. 40, n. 2.

¹⁶³ Phase 1 Rehearing Opinion, pp. 66-67.

¹⁶⁴ Tr. 2,250-2,251.

¹⁶⁵ E.g., Case 90-G-0734, National Fuel Gas Distribution Corporation - Rates, Opinion No. 91-16 (issued July 19, 1991)(growth factor of 6.1%, Gross Domestic Product growth of 2.8%) (footnote in original).

¹⁶⁶ Phase 1 Opinion, pp. 39-40.

AT&T's arguments in the present case resemble in many ways those in the First Proceeding, and there continues to be no basis for rejecting the single-growth model and adopting a three-growth model as a matter of principle or theory. But the Commission in Phase 1 noted that it had, on occasion, employed a two-growth DCF analysis, and the unusual circumstances--primarily, a one-growth figure that seems attributable to particular conditions and very likely unsustainable--that warranted recourse to it (or to some other alternative) appear to exist here as well.¹⁶⁷

Using the AT&T proxy group with updated data would suggest, under a one-growth DCF model, a return on equity of 14.77%--almost the same as the return Verizon calculated on the basis of its own proxy group. The figure comprises a dividend yield of 2.45% (measured as of March 30, 2001) and a growth rate of 12.32% (based on I/B/E/S growth rate as of March 15, 2001). Several factors suggest that result is unreliable and out-of-line, incorporating a growth rate that will not be sustained.

For one thing, the equity return calculated in the First Proceeding, 12.1%, exceeded the cost of debt calculated there (7.3%) by 4.8 percentage points. The present cost of debt (measured, as in Phase 1, as the average of Moody's composite rate for Aa rated debt and S&P's composite rate for A rated debt as of April 3, 2001) is 7.39%, and a 14.77 equity cost would

¹⁶⁷ For example, the Commission spoke favorably of a two-growth DCF in Case 28211, Consolidated Edison Company of New York Inc. - Electric Rates, Opinion No. 83-7 (issued March 9, 1983); in view of anticipated substantial changes in that company's payout ratio, it used a one-growth DCF that had been adjusted to reflect those factors. In Case 29327, Niagara Mohawk Power Corporation - Electric and Electric Street Lighting Rates, Opinion No. 87-3 (issued March 13, 1987), it used a two-growth DCF in view of the "transitional" changes in that company's financial position, related to bringing on line a large, long-term construction project. See also Case Central Hudson gas and Electric Corporation - Electric Rates, Opinion No. 86-18 (issued July 17, 1986).

exceed that figure by 7.38 percentage points. There is no explanation for so substantial an increase in equity risk premium, and it calls the calculated equity return seriously into question. Beyond that, there are several factors that could account for an extraordinarily high growth factor in the short run, among them the growth of wireless and data/internet and international services. These are unlikely to continue to sustain the growth factor in this way, and some remedial adjustment seems warranted.

Several alternatives present themselves. A three-growth DCF, applied to the AT&T proxy group, using the I/B/E/S growth rates for the first five years, an average of that growth rate and AT&T's alleged sustainable growth rate (6.29%) for the ensuing 15 years, and the sustainable growth rate thereafter produces an average equity cost of 10.30%. A two-stage analysis, using the sustainable rate after the first five years, produces an average cost of 9.26%. These figures appear unduly low, particularly when compared to a broadbased average calculated in the Merrill Lynch Quantitative Profiles analysis, using a three-stage growth model. The April 2001 edition of that document calculated a DCF return of 11.2% for both the S&P 500 and for a group of 29 telecommunications companies.

In view of these widely divergent estimates and the ongoing major changes in the industry that may account for them, it seems to me that a fair and conservative result can be obtained by applying to the current cost of debt the same equity risk premium that emerged in the First Proceeding. The cost of debt, as noted, is now 7.39%, and the equity risk premium in the First Proceeding was 4.8 percentage points. That suggests a cost of equity in this proceeding of 12.19%, a figure well within the range supportable by the record as a whole. The resulting overall cost of capital, using a debt/equity ratio of 35%/65%, comes to 10.5%, as shown in the following table:

	<u>Percentage</u>	<u>Cost</u>	<u>Weighted Cost</u>
Debt	35%	7.39%	2.6%

Equity	<u>65%</u>	12.19%	<u>7.9%</u>
Total	<u>100%</u>		<u>10.5%</u>

LOOP COSTSIntroduction and Overall Method

Verizon submitted studies of the costs of providing unbundled access to two- and four-wire analog loops and two- and four-wire digital loops.¹⁶⁸ Its cost studies claim to assume a fully forward-looking design based on next generation digital loop carrier (DLC) technology, supported by fiber optic feeder cable, even though DLC is nowhere near universal deployment. Among other things, DLC provides for the conversion of analog signals into digital format in a remote terminal (RT) located in the outside plant, allowing for the direct delivery of digital line signals to digital line switch ports. Verizon maintains this configuration is always less costly than one that terminates an analog signal at the switch, assuming costs are analyzed by taking account of the loop/switch combination as a whole and not from the perspective of the loop alone. According to Verizon, "comparing loop costs, without reference to switching costs, is a fallacy that undermines most CLEC analysis of the relative costs of all-copper loops and fiber-fed DLC-

¹⁶⁸ According to Verizon, "a two-wire analog loop is a transmission circuit consisting of two wires that is used to both send and receive voice conversation in the 300-3000 Hz frequency range. This is the basic loop type used for providing voice-grade 'POTS' service. A four-wire analog loop consists of two pairs, one to transmit and one to receive. It is used in certain private line and data service applications. A two-wire digital loop is a two-wire loop suitable for the transmission of certain high-speed data services. In particular, Verizon's two-wire digital ('premium') loop can be used to provide ISDN - Basic Rate interface ('BRI') service to an end-user customer. A four-wire digital loop will support DS1-level transmission. It can be used, among other things, to provide ISDN - Primary Rate Interface ('PRI') service to an end-user customer. (Tr. 2,421-22.)" Verizon's Initial Brief, pp. 108-109, n. 247.

equipped loops at short lengths."¹⁶⁹ Verizon cites in this regard the Commission's endorsement, in the First Elements Proceeding, of a 100% fiber feeder/DLC configuration, and it continues to regard that premise as consistent with TELRIC.

Verizon's loop architecture also assumes the use of forward-looking GR-303 technology, which, among other things, permits a smaller number of switch ports to serve a given number of POTS loops.¹⁷⁰ Nevertheless, Verizon's studies consider not only the "integrated" DS1 level GR-303 interface but also a more costly DS0 level "universal" (non-GR-303) interface. This use of universal DLC (ULDC) interfaces rather than integrated DLC (IDLC) is controversial and is discussed below.

Along with the foregoing technology assumptions, Verizon's study posited use of existing outside plant routes and lengths, on the premise that they are driven by factors, such as geography and local land-use requirements, that will not change in a forward-looking environment. It then determined the equipment that would be deployed along those routes by randomly selecting 55 wire centers (representing all three of its proposed density zones) and asking its outside plant engineers to develop a forward-looking design for each of the 242 feeder routes within those wire centers. It explains that "the engineers were asked to assume current customer and central

¹⁶⁹ Id., p. 112.

¹⁷⁰ The initially analog signal appears at the switch port as a DS0 digital channel (a voice-grade digital channel, i.e., a digital channel of the lowest capacity), having been converted to that format at the remote terminal. There is, however, no DS0-level loop/switch interface, and DS0s are grouped as a 24-channel DS1 for interconnection. The GR-303 interface group comprises up to 28 DS1 channel groups interconnecting a remote terminal and a switch, and it obviates a one-to-one association of switch ports and loops by taking advantage of the fact that only some customers will be requesting service at any given time and establishing a connection between a DS0 channel and a loop only when the customer picks up the phone. That phenomenon is referred to as "concentration." (Verizon's Initial Brief, p. 115.)

office locations, and current routing of feeder cable, but otherwise to develop designs that were in no way constrained by the current, 'embedded' deployment of facilities. In this way, Verizon insured that the loop design underlying its studies would be fully forward-looking."¹⁷¹ In determining the quantities of equipment to be deployed, Verizon made assumptions regarding utilization factors, and it applied what came to be called an "environmental factor," said to take account of zone-specific differences in the amount of work required to install outside plant. Finally, it developed a "link cost calculator" that costs out the facilities designed by the outside plant engineers.

Each step of Verizon's analysis drew criticism from other parties, as next discussed. Issues related specifically to digital subscriber loops (DSL) are discussed in a separate section.

Network Design

1. Loop Configuration; Fiber vs. Copper

A major source of controversy in the First Elements Proceeding was Verizon's assumption of 100% fiber optic feeder; other parties argued, in general, that for relatively short loops (various cut-off points were identified) copper feeder would be less expensive, and the Hatfield Model contemplated its use. The Commission ultimately determined to use the 100% fiber feeder network, finding that when installation and maintenance, among other things, were taken into account, fiber offered cost and operational advantages that warranted its use even for relatively short narrow band loops.¹⁷² In the present proceeding, there is general (though not universal) agreement that all-fiber feeder is the technology of choice as long as it is deployed in a manner that maximizes its advantages; but several CLEC parties deny that Verizon has done so.

¹⁷¹ Verizon's Initial Brief, pp. 118-119.

¹⁷² Phase 1 Opinion, pp. 82-84; Phase 1 Rehearing Opinion, pp. 22-29.

WorldCom offers an extended critique of Verizon's loop configuration, distinguishing between the high-density Manhattan zone and less dense regions. In Manhattan, Verizon assumes either a remote terminal located in the customer's building, served by fiber directly to the building (84% of total lines) or else an outside remote terminal, with a copper subfeeder from the RT to the distribution interface (16% of lines). According to WorldCom, an additional alternative would be an RT located in the central office itself; for loops under 4,000 feet, in situations where the RT cannot be located in the customer's building, WorldCom believes a central office RT would be less costly than an outside RT, "simply because the typical outside RT configuration always involves RT site location costs."¹⁷³ Although the average loop line in Manhattan is 2,700 feet, Verizon shows no lines served by an RT in the central office, and WorldCom alleges that it therefore overstates the cost of the forward-looking network.

Turning to other areas of the State, WorldCom contends that Verizon ignored the fundamental engineering principle, recognized in its own engineering guidelines, that fiber-fed RTs should be located at a "location that minimizes the copper cable's length leaving the RT site to the customer premises."¹⁷⁴ It contends that Verizon simply assumed that feeder and distribution lengths would be the same as in the existing embedded plant. While Verizon asserts that its engineers designed the forward-looking network free of existing constraints, it nevertheless acknowledges that the feeder and distribution lengths reported in the loop model were the same as in the existing plant.¹⁷⁵ WorldCom recommends what it characterizes as a conservative 10% downward adjustment of loop costs to recognize these inefficiencies.

¹⁷³ WorldCom's Initial Brief, p. 44.

¹⁷⁴ Id., p. 45, citing Exhibit 445 (WCOM-VZ-120 §5).

¹⁷⁵ Id., p. 46, citing Tr. 2,418-2,419.

WorldCom contends as well that Verizon's loop cost model improperly assumes that each central office terminal (COT) serves only two RTs--a "dual-feed" arrangement--when in fact its engineering guidelines specify that more RTs could be deployed to maximize utilization of the COT.¹⁷⁶ It argues that compliance with this guideline would increase COT utilization and reduce COT installation costs per line, and it suggests adoption of a COT fill factor of 90% to correct the flaw.¹⁷⁷ Finally, WorldCom contends that Verizon fails to reflect optimal DLC line concentration, in that it assumes a 3:1 concentration ratio even though its "network planners highlight that the architecture and features of the GR-303 system include variable line concentration as high as 6:1," a figure endorsed by Verizon's economic and network planning studies.¹⁷⁸ WorldCom calculated that use of a 6:1 concentration ratio would reduce DSL channel unit costs from \$3.90 per circuit to \$1.95. It asserts that the traffic engineering blockage concerns cited by Verizon as requiring the 3:1 ratio have not been shown to be anything other than attributable to inefficiencies in the legacy network.

The CLEC Alliance contends that Verizon's failure to take full advantage of the alleged efficiencies of an all-fiber/DLC feeder architecture warrants reconsideration of the Commission's previous determination to posit its use. It contends that Verizon's own numbers show that an all-copper loop construct would yield lower total loop costs and that the use of fiber should be limited to loops longer than the cross-over point at which the use of fiber feeder begins to lower the cost of the entire loop. It asserts that Verizon's own network planning guides provide for the use of copper for distances under 4,000 feet.

¹⁷⁶ WorldCom's Initial Brief, p. 47, citing Exhibit 445 (WCOM-VZ-120 §5.3).

¹⁷⁷ Fill factors are discussed below.

¹⁷⁸ WorldCom's Initial Brief, p. 48, citing Exhibit 414P.

The CLEC Alliance argues as well, like WorldCom, that Verizon has failed to take advantage, in a TELRIC compliant manner, of the efficiencies offered by fiber, such as by placing RTs closer to end users and maximizing the length of the fiber feeder sub loop. It charges that Verizon "uses copper where fiber should be used because of the length of the distribution loop, and it uses all fiber to the curb of large buildings where the entire loop is less than 1,000 feet."¹⁷⁹ The CLEC Alliance adds that Verizon, in response to an argument that it used too little fiber cable relative to copper cable, analyzed a wire center--Albany State Street--that by its own admission was anomalous.¹⁸⁰

Verizon responds to these various critiques. To WorldCom's point about RT placement in Manhattan, it explains that the cost of outside RTs is avoided in the 84% of instances in which the RT is located inside the customer's building. In the remaining 16% of instances, the possibility of placing the RT in the central office rather than outside is implicitly taken into account though not identified as a separate model.¹⁸¹ It disputes as well the broader charge, by both WorldCom and the CLEC Alliance, that it failed to take full advantage of fiber/DLC technology, contending that RT placement was based on forward-looking feeder design. It asserts that the overall ratio of fiber feeder length to copper subfeeder and distribution length is an efficient 4:1, not the lower figure erroneously calculated by WorldCom witness Dr. Ankum on the basis of a small, non-representative sample of loops.

Verizon defends as well its 3:1 concentration ratio. It argues that too high a ratio entails an unacceptable risk that a call will be blocked; that its engineers determined that 3:1 was the maximum recommended ratio; that the 6:1 ratio referred to in its planning document was, in effect, a straw man

¹⁷⁹ CLEC Alliance's Initial Brief, p. 77.

¹⁸⁰ Id., p. 78.

¹⁸¹ Verizon's Reply Brief, p. 68.

used for analysis rather than a guideline that took account of traffic considerations;¹⁸² and that WorldCom has shown neither that a higher ratio would be acceptable nor that the need to keep the ratio at 3:1 results from inefficiencies associated with the embedded network rather than customer calling patterns. It likewise supports its premise of two RTs to each COT, contending that its guideline does not specifically recommend multiple rather than dual feed and that additional costs and operational difficulties may be associated with the multiple feed option. It therefore contends that "in practice, multiple RT arrangements are only used where grossly inefficient underutilization of COTs would otherwise occur."¹⁸³

Finally, Verizon disputes the CLEC Alliance's argument for the use of copper in short loops, arguing, among other things, that the CLEC Alliance failed to recognize, in its cost comparison, the fixed costs of terminating copper loops on digital switches. It asserts as well that the CLEC Alliance misread the Verizon engineering guideline it cited as supporting the use of copper.

While these issues are novel in their content, they are classic in their form. In effect, a utility is estimating its costs on the basis of its experience and projecting those costs to the future in a manner intended to take account of forward-looking developments. (The forward-looking premise is applied more aggressively under TELRIC than under traditional forecast test years, but in a manner not fundamentally different in form.) The utility's data and experience are a good source of information on what can be expected in the future, but the utility has a clear self-interest in erring on the side of high cost forecasts. For both reasons, it bears the burden of proof, and the regulator must ensure that only proven costs are allowed. In so doing, the regulator should avoid groundless speculation or what Verizon characterizes as "the Panglossian

¹⁸² Verizon's Initial Brief, p. 116, n. 264.

¹⁸³ Verizon's Reply Brief, p. 76.

perspective of the CLECs, who seem to believe that all difficulties will magically dissolve in a sufficiently 'forward-looking' environment."¹⁸⁴ But where a range of estimates is suggested by the record, regulators have always made reasonable adjustments that impel a utility to seek efficiencies, just as it would be impelled to do by a competitive market.

Against that background, I conclude that Verizon has, for the most part, successfully defended its network design. There is certainly no basis for revisiting the Commission's decision that an all-fiber-feeder, DLC construct represents the least-cost, most efficient, forward-looking network, nor do I see any need to modify Verizon's assumptions with respect to the placement of RTs. But the record suggests a range of reasonable options with respect to concentration ratio and the number of RTs to each COT. As to the former, Verizon has not borne its burden of proving that a 3:1 concentration ratio is the absolute maximum, though it does seem likely that a concentration ratio as high as 6:1 could imperil adequate service--and not merely because of alleged inefficiencies in the legacy network. To ensure that prices are set on the basis of a reasonable, least-cost premise, I recommend use of a concentration ratio of 4:1. Likewise, Verizon has not shown that more than two RTs per COT would be unacceptable, though it has identified costs and risks that may be associated with a higher ratio. The record overall suggests not a specific adjustment here, but recognition of this concern in the choice of a fill factor, as discussed below.

2. Integrated vs. Universal DLC

As already noted, Verizon studied two alternative loop/switch interfaces: the integrated DS1 level interface and the universal DS0 level interface. The latter is more expensive, but Verizon maintains its use is dictated in some circumstances by service choices made by the CLEC. Several CLECs dispute that premise.

¹⁸⁴ Id., p. 75.

Verizon maintains that a CLEC wishing to take advantage of the efficiencies offered by a DS1 (that is, 24-loop) interconnection may do so, but that a CLEC wishing to connect only a single loop instead of purchasing an entire DS1 level interface has no alternative but to use the UDLC mechanism, in which a voice grade analog signal is transmitted over a copper facility and is then converted on the COT into a DS0 channel that can be delivered to the digital switch. Verizon recognizes that this connection is less efficient but maintains it is the only available way to connect an individual two- or four-wire analog loop or two-wire digital loop to the NGDLC system. In its view, the choice between the two types of interconnection is up to the CLEC.

WorldCom charges that Verizon's claim ignores the recently developed ability of GR-303 IDLC systems to achieve DS0 unbundling, permitting a DS0 interconnection without a universal interface. It charges that UDLC is "an outmoded, high-cost embedded technology that has no role in a forward-looking TELRIC network."¹⁸⁵ It points to the Commission's rejection, in a compliance phase of the First Proceeding, of Verizon's effort to show that ISDN-BRI loops could not be connected using integrated technology, and it maintains that Verizon has similarly failed to make a showing of infeasibility here. AT&T argues similarly, accusing Verizon of giving lip service to TELRIC while in fact reverting to embedded cost recovery principals. The CLEC Alliance adds that Verizon uses IDLC to provide loops to its own retail customers and that to deny it to interconnecting CLECs is discriminatory. It emphasizes the widespread nature of IDLC deployment and identifies the operational as well as the cost disadvantages of UDLC. Rhythms/Covad take Verizon to task for "posit[ing] a forward-looking, TELRIC-compliant network using IDLC loops and then develop[ing] UDLC rates that ignore that technology."¹⁸⁶

¹⁸⁵ WorldCom's Initial Brief, p. 41, citing Tr. 1,419-1,421; 3,738.

¹⁸⁶ Rhythms/Covad's Initial Brief, p. 6.

In response, Verizon maintains that the technological innovations said to permit use of an IDLC interface for individual voice-grade loops cannot, in fact, do so efficiently and that a CLEC that sought to provision a loop in this manner would still incur the costs of a full DS1-level interface. It contends that the CLECs are not asking for "an integrated interface as such"; "rather they are seeking a rate that recognizes the efficiencies of such an interface, without paying the high unit costs associated with providing that interface for less than a DS1's worth of loops."¹⁸⁷

The CLEC argue credibly that GR-303 technology should be able to obviate UDLC in the near future if it cannot already do so, and that a properly forward-looking TELRIC analysis should take account of those developments. But it appears as well that the capacity may not yet be available, and that its timing is less than certain. In these circumstances, WorldCom's reference to the process used in the First Proceeding is particularly apt. Rates should now be set on the basis of UDLC connections in the situations where Verizon proposes to do so, but they should be adjusted downward one year from now, to reflect IDLC connections, unless Verizon can show that it would be unreasonable to make that adjustment.¹⁸⁸

Survey Method

AT&T offers several criticisms of the survey in which Verizon asked its plant engineers to redesign a sampling of feeder routes. It contends that the responses are hearsay; that they were "scrubbed"¹⁸⁹ by managers; that the sample data may not be representative; and that the analysis simply represents subjective determinations by the outside plant designers. AT&T contrasts Verizon's study of only 10.6% of its wire centers and

¹⁸⁷ Verizon's Reply Brief, p. 72.

¹⁸⁸ To clarify, I recommend that the adjustment be made one year from the date of this recommended decision, not one year from the date of the Commission's action in the proceeding.

¹⁸⁹ AT&T's Initial Brief, p. 30.

11.7% of its feeder routes with the HAI study's analysis of all of Verizon's service territory. AT&T charges further that the study was rushed; that it contains numerous simplifying assumptions that generated homogeneous data; and that the study inconsistently suggests that average loop component lengths always sum to the maximum loop length. The CLEC Alliance offers similar arguments, adding that Verizon's engineers have an incentive to overstate costs--for the sake of conservatism as well as to enhance Verizon's position--and arguing that survey evidence typically is admissible as an exception to the hearsay rule only if the survey is "material, more probative on the issue than other evidence and if it has guarantees of trustworthiness."¹⁹⁰ In the absence of such considerations here, it says, Verizon has not borne its burden of proof.

Verizon replies that the subjectivity of its study means that "it is grounded in the informed expert judgment of human engineers who are actually familiar with and responsible for [the] routes [in question]" and that such subjectivity "is superior to the supposed 'objectivity' (and factual invalidity) of the HAI Model."¹⁹¹ It adds that the HAI Model itself uses judgment as justification for its inputs and algorithms. It asserts that the sum of the average lengths of its loop components was, in fact, equal to the average loop length, that the surveys were not rushed but conducted over a period of many months without pressured deadlines, and that the data entries for feeder routes were homogenous simply because the survey form was designed to obtain the data at the wire center level, not the feeder route level. Verizon sees no source of bias in the survey, noting that the participants had no responsibility for UNE rates and arguing that they had nothing to gain by overstating requirements. While the surveyed engineers were not witnesses, the individuals who designed and administered the survey were available for cross-examination.

¹⁹⁰ CLEC Alliance's Initial Brief, p. 68, citing cases.

¹⁹¹ Verizon's Reply Brief, pp. 76-77.

I see no systemic flaw in the survey process. I have already recommended that the Commission find an analysis that starts from Verizon's own information to be acceptable--indeed, preferable to one grounded more in abstractions--and Verizon's survey was a reasonable way to gather the needed information.¹⁹² Likewise, I find no evidence of deliberate bias in the manner in which the study was conducted. Of course, one strength of the study--its reliance on the expert opinion of Verizon's experienced engineers--is simultaneously a weakness, in that their subjective judgments, involving not a right answer or a wrong one but a range of possibilities, will likely be swayed by institutional loyalties.¹⁹³ No specific adjustment on that account is identifiable, but the concern is one that can affect how discretion should be exercised in making other adjustments as to which the record suggests a range of options.

Demand Forecast and Utilization Factors

Determining the needed level of investment requires assessing the demand for service over a pertinent period and the utilization (or "fill") factor for the equipment, i.e., an "estimate of the proportion of [the] facility that will be 'filled' with network usage."¹⁹⁴ Verizon took account of "ultimate demand"; that is, it recognized growth over a ten-year period and assumed, for loop distribution plant, a utilization factor of 40%. (Ultimate demand is considered in the context of loop distribution plant, though the issue is not unique to it;

¹⁹² Reliance on the survey is not precluded by the hearsay rule. Such information is routinely used in our proceedings, as long as sufficiently knowledgeable witnesses are presented, and we are not, in any event, "bound by the technical rules of evidence." (Public Service Law §20(1).)

¹⁹³ To say this, I stress, is not to impute culpable conduct or even to call into question the legitimacy of the survey technique. It is simply to recognize a reality that must somehow be dealt with in using the survey results.

¹⁹⁴ Local Competition Order ¶682, cited at Verizon's Initial Brief, p. 14.

other utilization factors are discussed at the end of this section.) The CLECs argued, in general, that these assumptions require them to pay for capacity that they neither use nor need.

1. Distribution Fill Factor

WorldCom asserts a general mismatch, in the determination of per-unit loop costs, between a denominator reflecting current demand--in connection with which Verizon assertedly acknowledged that future demand was speculative--and a numerator based on ultimate demand, reflecting a network sized to meet current requirements as well as expected growth over the next ten years. WorldCom charges that Verizon presents its ultimate demand analysis as a theoretical discussion of the proper fill factor for copper distribution cable, in which it adjusts current demand levels upward to take account of the occupation of now-unoccupied housing units, the construction of new housing units, the conversion of single-family homes into multi-family units, the development of undeveloped land, and the conversion of other structures into housing units. These calculations produced a 40% fill factor for distribution cable, equivalent to 2.5 access lines per current residential customer, and MCI charges that this means that each time it purchases a loop from Verizon, it pays for 2.5 loops. It adds that even though it is paying for spare facilities, it is not allowed to use them, and thereby subsidizes the lines that Verizon uses to compete against it.

MCI contends further that the FCC rejected, in the Universal Service Proceeding, the use of ultimate demand to determine fill factors, citing both the speculative nature of the forecasts and the need for consistency between numerator and denominator and the unit cost calculation. Contending that Verizon never addressed in testimony the FCC's rejection of ultimate demand analysis, WorldCom finds incredible Verizon's witness's claimed ignorance of the FCC's action.¹⁹⁵ It

¹⁹⁵ WorldCom's Initial Brief, p. 16.

characterizes as "deliberate distortion"¹⁹⁶ Verizon's argument that its 40% fill factor was the estimate of its networking engineering experts rather than the result of its ultimate demand analysis, noting Verizon's admission that the engineering experts at issue were not those surveyed in this proceeding but those involved in the previous proceeding's cost studies, where Verizon also proposed a 40% fill factor even though its field engineers had recommended fill factors of 70% to 80%. (The Commission in that proceeding adopted a distribution fill factor of 50%.¹⁹⁷) WorldCom recommends adoption of the FCC's copper distribution cable fill of 75% for high density regions, such as Manhattan; it notes that the Michigan Commission recently adopted that figure. Lower factors, but in no event less than 55%, could be used in some less dense areas. Alternatively, WorldCom would have the Commission consider AT&T's alternative, next discussed.

AT&T criticizes Verizon's method on similar grounds, asserting that the method "require[s] CLECs to pay prices today for network facilities that will not be needed by anyone for another ten years."¹⁹⁸ It offers a number of specific criticisms of Verizon's growth assumptions, contending, among other things, that if actual growth and service characteristics of distribution areas were taken into account, utilization levels in mature neighborhoods could be set much higher than in other areas. AT&T suggests that Verizon's overstatement of needed capacity be corrected by taking Verizon's estimate of 4% annual growth and developing an adjustment factor for each asset account that will spread the annual costs over the average number of lines anticipated to use the asset over its expected life. It does so by computing the ratio of the present value of current demand plus growth lines over each projected asset life to the present value of current demand over that same time

¹⁹⁶ Id., p. 17.

¹⁹⁷ Phase 1 Opinion, p. 65, Phase 1 Rehearing Opinion, pp. 41-45.

¹⁹⁸ AT&T's Initial Brief, p. 35 (emphasis in original).

period, using the FCC's prescribed asset lives and AT&T's recommended cost of capital. It then divides each asset's annual cost factor by the appropriate growth-to-current-demand ratio. In addition, AT&T applied adjustments to Verizon's fill factor calculation and computed an average distribution fill factor of 56%.¹⁹⁹ The CLEC Alliance, offering similar arguments, also supports a distribution fill factor of 56%.

The CLEC Coalition advocates use of the 50% distribution fill factor adopted by the Commission in the first proceeding. It contends that by starting with a distribution fill factor of 60% at current demands and adjusting it to reflect both long-term demand and construction breakage,²⁰⁰ Verizon overstates its adjustment, given that part of the ultimate demand requirements would be met simply through construction breakage. It asserts as well that Verizon's treatment of its loss of market share leads to the absurdity that the smaller its market share, the smaller the distribution fill factor.

In response, Verizon maintains that its 40% fill factor for loop distribution plant is supported by the Phase 1 estimates of its central engineering staff; by its quantitative analysis in this case, based on a series of adjustments to the 60% utilization level; and by the application of adjustments and corrections to the 50% factor adopted by the Commission in the First Proceeding. It contends that all three methods converge on a 40% figure. Verizon's quantitative analysis starts with a 60% utilization factor, reflecting two lines per zoned household in an ultimate demand construct and an actual household demand

¹⁹⁹ Id., pp. 38-39.

²⁰⁰ Breakage refers to what is otherwise termed the "lumpiness" of investment, i.e., the existence of minimum quantities of installable capacity, which makes it impossible to precisely match new installations with demand. For example, if the smallest piece of equipment that can be installed will serve five units of demand, a single unit of demand that cannot be served by existing facilities will require installation of five units of capacity.

of about 1.2 lines. It contends industry experience has shown a need to install sufficient distribution cable capacity at initial construction to accommodate the long-term potential peak demand in the distribution area; a failure to do so leads to continuing service problems, high operating costs, and costly capacity additions. It contends that two pairs per household is a reasonable ultimate demand allocation despite the advent of DSL- based technologies that can derive two or more lines from a single physical loop. Verizon contends further that actual demand will be reduced on account of undeveloped land, vacancies, and the fact that some customers will not use Verizon's infrastructure. On the basis of forward-looking estimates of those factors, it multiplied its 60% utilization factor by 90% to reflect unbuilt but zoned land, 95% for vacancies, 90% for customers who do not use Verizon's wire-line network, and 90% for breakage. The resulting figure was a fill factor of 41.6%, which Verizon considers consistent with the 40% estimated by its outside plant engineers in the First Proceeding. As noted, the Commission there adopted a 50% fill factor, but Verizon contends the Commission's analysis was flawed in several serious respects.²⁰¹

Verizon disputes the charge of a mismatch in charging current customers for the spare capacity associated with ultimate demand, arguing that the cushion benefits current customers who, without it, would suffer degraded service. Future customers, it contends, will have their own level of demand and require their own cushion. It likewise sees no unfairness in charging CLECs for spare capacity they cannot use, given that the capacity is available for purchase by them if they need it; it contends that TELRIC requires carriers to bear the cost of facilities even if they are not immediately entitled to use them. It sees no speculation regarding how much demand will emerge at what time, and it contends that the FCC's rejection of ultimate demand was set forth in the context of

²⁰¹ Tr. 2,449-2,452.

determining relative, not absolute costs and included a statement by the FCC that the decision was not necessarily appropriate for UNE costing purposes. (It nevertheless disputes as well the substance of the FCC's conclusion, rejecting, once again, the notion that an ultimate demand analysis is speculative.) It likewise disputes the charge of double count between the breakage adjustment and ultimate demand analysis, explaining that the breakage adjustment means that some deployed pairs will not be needed even to serve ultimate demand, and it sees no absurdity in associating a lower distribution fill factor with a lower market share, contending that competition tends to increase the uncertainty confronted by planners and that uncertainty, in turn, tends to diminish utilization factors.

It is important to remember that in resolving this issue we are pursuing not truth so much as fairness and reasonableness. We are not trying to uncover the one "correct" fill factor, on the premise that we could identify it if only we had enough information; rather, we are attempting to select a fill factor that strikes a reasonable balance between the clear engineering need to design a system whose capacity exceeds the demand initially imposed on it and the equally clear regulatory need to avoid imposing on purchasers of a price-regulated good the costs of excess capacity beyond reasonable requirements. As is so often the case in regulation, therefore, there is a range of reasonable factors--this record suggests that range for distribution plant runs from something above 40% to something below 56%--and it is necessary to choose a point within that range. It is also necessary to consider the place of ultimate demand in the analysis.

Verizon correctly argues that the FCC has not ruled out the use of ultimate demand; and it seems clear that ultimate demand must be taken into account to ensure that the contemplated system will be properly sized. The more difficult question is how to spread the associated costs, and AT&T fairly argues that current customers should not bear the full cost of

serving demand that is not expected to eventuate for ten years. AT&T's method for assigning the costs of some estimate of average demand over the ten years is needlessly complex and cumbersome. A better alternative is to recognize ultimate demand by taking account of the net present value of the ten-year average demand, assuming annual growth of 3%.²⁰² The link cost calculator should be modified accordingly.

As for the distribution plant fill factor, Verizon derives its 40% figure by starting with a presumed actual household demand of 1.2 lines. That figure appears low, given the recent trend:

Average Residential Lines per Living Unit ²⁰³		
1997	--	1.18
1998	--	1.22
1999	--	1.25

In view of this trend, presumably attributable in large measure to growth in Internet usage, AT&T's estimate of 1.3 lines appears more reasonable as an estimate for 2002, and it will be used here for calculation purposes. (Updated data, if available, may be presented on exceptions and should be taken into account by the Commission in its decision.) The resulting factor, assuming use of two cable pairs per zoned residential unit (which, as Verizon suggests, remains a reasonable figure) is 65%.

Verizon then adjusts that factor (actually, its own 60% figure, reflecting 1.2 residential lines per living unit) by 75%, reflecting the combined effect on demand of vacancies (-5%), undeveloped parcels (-10%), and customers lost to competitors (-10%). These adjustments are all sound in concept--notwithstanding AT&T's objection to the latter two--but their net effect appears overstated. First, undeveloped parcels presumably will be developed in the future, and that development

²⁰² This is the midpoint of the 2%-4% annual growth that Verizon envisions. Tr. 2,445.

²⁰³ Tr. 1,436 (citing ATT-BA-24).

should be recognized in an ultimate demand analysis. The adjustment therefore should be -5%, representing an averaging of the initial and end states. In addition, the effect of customers lost to competitors will be offset somewhat by the effect of customers acquired as undeveloped parcels are developed. As Verizon properly notes, it cannot be assumed that the freed-up lines will always be available where needed, and the offset should not be overstated. Still, a better adjustment for customers lost to competitors appears to be -5%. Applying these adjustments, along with the 90% breakage adjustment, suggests a distribution fill factor of 49.725%,²⁰⁴ which should be rounded up to continue the fill factor of 50%.

2. Other Fill Factors²⁰⁵

Verizon proposed a fill factor of 84% for RT electronics, which it sought to justify as the 90% objective fill factor, adjusted downward to allow for growth (4%) and churn (2%). The CLEC Alliance and WorldCom urge a 90% factor, arguing, in effect, that churn and growth are adequately accounted for in the difference between 100% fill and 90% fill.

I recommend a fill factor of 88%. Verizon has explained why the objective fill factor of 90% does not in itself allow adequately for growth and churn, but it has not shown that its separate growth and churn factors are both necessary and reasonable. Recognizing again the goal of fairness as well as Verizon's burden of proof, it seems reasonable to allow a total of 2% for growth and churn.

For RT enclosures, the CLEC Alliance and WorldCom recommend a utilization factor of 84%, which they argue should

²⁰⁴ The calculation is $65\% \times (100\% - 5\% - 5\% - 5\% = 85\%) \times 90\%$.

²⁰⁵ The fill factors for house and riser cable, for interoffice transport, and for line sharing test units are discussed separately, under their respective headings.

be attainable on all routes in a forward-looking setting²⁰⁶; they contend that Verizon contemplated fill factors as low as 18%. Verizon responds that the 18% utilization factor involved an atypical design situation and that the average fill factor ranged up to 70.9% in the Manhattan zone. (The factors in the major cities and rest-of-state zones were 56.7% and 44.8%, respectively.²⁰⁷) Verizon sees no basis for the 84% factor, citing various breakage and location constraints that limit flexibility in choosing the size of RT enclosures and pointing to the need to allow for growth and churn.

Verizon has shown that the 18% fill factor cited by WorldCom witness Ankum was indeed anomalous, and it has identified various qualitative considerations that strongly suggest a fill factor of 84% is too high. But that is a different matter from a quantitative showing that its own fill factors are proper and forward-looking. Recalling once again that Verizon bears the burden of proof, and recognizing that there is considerable flexibility in designing RT enclosures (even if not as much flexibility as WorldCom and the CLEC Alliance would have it), I recommend that Verizon's proposed RT enclosure fill factor in each zone be adjusted upward by 15%.²⁰⁸

The utilization factor for central office terminals has already been alluded to, for it depends in large part on the number of RTs per COT. The CLEC Alliance and WorldCom recommend a factor of 90%, premised on maximizing the number of remote terminals per COT and on the ability to adjust COT equipment to an optimally efficient size. Verizon regards the 90% utilization factor as arbitrary, contending that the documents cited by the CLECs do not, in fact, support the claim that 90% is a reasonable factor. It cites the difficulty of augmenting

²⁰⁶ CLEC Alliance's Initial Brief, p. 98, citing exh. 355 (QSI Report), p. 75; WorldCom's Initial Brief, p. 23, citing Tr. 3,752, 3,753.

²⁰⁷ Tr. 3,399.

²⁰⁸ For example, the Manhattan fill factor would be 81.5%.

COTs on demand and the consequent need to include, on installation, all the capacity that will ultimately be needed.

Verizon argues persuasively that the CLECs misread the internal documents that they cite in support of the 90% fill factor.²⁰⁹ But I have already noted that the COT fill factor should recognize Verizon's failure to show convincingly that more than two RTs per COT would be unacceptable. To take account of that possibility, and in recognition once again of Verizon's burden of proof, I recommend setting rates on the premise of a 15% increase in this fill factor as well.

OSS Costs

AT&T urges rejection of Verizon's proposed charge of 58¢ a month per loop for systems providing access to operation support systems. It suggests recovery of the costs is subject to the conditions set forth in the Commission's order approving the NYNEX/Bell Atlantic merger.

Verizon responds, correctly, that these are not cost onsets within the meaning of the Merger Order related to the development of OSS access systems; they are, rather, software maintenance costs and hardware carrying costs whose recovery is permitted.

Deaveraging Issues

1. Environmental Factor

To test its intuitive hypothesis that the amount of work required to install outside plant might vary by geographic area, Verizon analyzed its engineering and construction records information system (ECRIS) data to identify such variation and found higher costs in dense areas such as Manhattan.²¹⁰ The study compared, by geographic region corresponding to Verizon's nine

²⁰⁹ Verizon's Reply Brief, p. 92, n. 236.

²¹⁰ It should be recognized that previous deaveraging studies took account of differences in technology, equipment deployment and loop length in the different density zones. They did not take account of zone-specific differences in the amount of work required to install outside plant.

strategic business units (SBUs) and three density zones, the actual labor time required to perform outside plant work operations against the standardized time for the same work operations. The standardized times, developed by Verizon's consultant H. B. Maynard and Company, estimate "the standard, average time for performing the function, regardless of where in the State it is performed, except for minor differences in the travel time to and from the work site."²¹¹ Actual and standard times alike take account of the types and amounts of plant that is placed, rearranged, or removed; but the actual time considers, as well, factors that depend on locale and density specific conditions. These include, among others, "traffic conditions at the work site; terrain requiring hand digging; locations requiring the removal and restoration of fences, posts, and other objects; locations requiring landscaping; locations requiring minimum two-person crews; locations requiring the removal of waste contaminants (with contractors); locations requiring security arrangements."²¹² The analysis was performed by Verizon's statistical consultant NERA, which analyzed over 388,000 individual work operations associated with over 4,000 outside plant estimate jobs throughout the state. The study

²¹¹ Verizon's Initial Brief, p. 137.

²¹² Id., pp. 137-138, n. 313, citing Tr. 2,472-2,473.

found that the Manhattan had an actual-to-standardized-labor-time ratio of 1.59, the highest in the State, and that the statewide average ratio was 1.37. (Verizon explains a statewide average greater than 1.0 by noting that the ECRIS standardized times do not account for all the costs actually incurred in performing outside plant work, omitting the locale specific conditions that show up in actual work times.) Asserting that NERA's statistical analysis shows the differences in the ratios to be statistically significant, Verizon argues that these costs must be taken into account in determining loop costs.

CLECs object to the environmental factor. WorldCom contends that the ECRIS standard time increments are forward-looking (as Verizon itself had maintained in the First Proceeding in arguing for the TELRIC compliance of the studies it submitted there); that they were scientifically and objectively established by an independent consultant using the state-of-the-art analysis; and that they have been shown to be attainable in actual operations. It therefore regards the proposed adjustment as an \$80 million retreat from forward-looking efficiency. WorldCom characterizes as unsupported speculation Verizon's attribution of the identified time differences to environmental conditions rather than inefficient work practices, and it notes that NERA's analysis of statistical significance made no effort to account for the time differences. In addition, WorldCom asserts, the ECRIS data themselves contain locale-specific costs, and there is no need for a further adjustment to recognize them.

AT&T similarly expresses confidence in the ECRIS standardized times (though it notes that even they do not consider the economies of scale that a new entrant building a new network would enjoy by reason of contiguous jobs) and regards the environmental factor as an attempt to impeach Verizon's own ECRIS data base. It alleges inconsistency between Verizon's reliance on its engineers with respect to network design and its refusal to rely on their expertise as reflected in the ECRIS data base. Z-Tel adds that Verizon has not shown

the recent outside plant activity here taken into account to be similar to the outside plant activity required, on average, to construct and rearrange all Verizon outside plant.

Verizon maintains in response that the CLECs are simply unwilling to accept evidence that costs may be higher in Manhattan than elsewhere. It denies that the adjustment impeaches the integrity of ECRIS, which works well for its intended purposes but is only enhanced as a UNE costing tool by application of this adjustment. It maintains that the work operations that were studied were completed over a period of almost two years and are representative of the relevant activity; and it asserts that TELRIC does not require assuming away such factors as traffic, illegally parked vehicles, or weather conditions.

Verizon's environmental factor appears to be a reasonable mechanism for achieving geographical rate deaveraging, taking account of empirically derived cost differences. But Verizon is less persuasive when it dismisses in a footnote the peculiarity that the statewide average actual-to-standardized ratio substantially exceeds unity, explaining that the ECRIS standardized times fail to include all pertinent costs. If that is so, Verizon is, in effect, impeaching its own ECRIS estimates, as the CLECs argue. Those estimates, however, are being accepted as the basis here for analysis, and the overall cost level they imply should not be increased in this manner. I recommend that Verizon be required to recalculate the environmental factor in a manner that assumes a statewide average of 1.0 and adjusts each regional environmental factor pro rata.

2. Manhattan's Unique Status

The CLEC Alliance contends that Verizon has failed to capture the economies of scale that can be achieved in high density areas such as the central business district of Manhattan. It compares the loop cost in downtown Chicago of \$2.59 to Verizon's Manhattan cost of \$17.12, asserting that "the

sheer magnitude of this disparity suggests a concerted effort to conceal [Verizon's] economies of scale by averaging many cost characteristics on either a statewide or service area wide basis."²¹³ In its view, the disparity with Chicago suggests that Verizon has overstated loop rates in the rest of the State as well.

Verizon does not specifically respond but, as noted, contends that there are factors in Manhattan that tend to increase costs as well as decrease them. That appears to be so; in any event, a bare comparison to a rate elsewhere does not warrant modification of a rate derived here on the basis of a sound process.

3. Deaveraging Zones

Verizon's three-zone deaveraging plan was described earlier. FairPoint proposed an alternative, revenue-neutral, deaveraging plan intended to foster local exchange competition in areas now constituting part of the "rural" region. It offered five proposals, all intended to insure "that the Rural rate band would . . . apply to truly rural areas and not to the downtown area of smaller cities and towns. Each proposal is grounded in the complementary principles that there is a strong correlation between population density and loop costs, and that areas with similar population density should be grouped into the same unbundled loop rate band."²¹⁴

FairPoint's witness Dawson determined that population density was the predominant factor affecting loop costs. He reasoned that densely populated areas required shorter cables and shorter drop wires; permitted the use of more copper pairs per cable, thereby reducing unit costs; and warranted greater use of new technology. He then determined that density statistics for downtown areas of small cities now included in the rural zone resembled those of larger cities now included in

²¹³ CLEC Alliance's Initial Brief, p. 87.

²¹⁴ FairPoint's Initial Brief, p. 2.

the urban (non- Manhattan) zone. On that basis, he proposed separate bands for Manhattan, the urban zone, the suburban zone, and the rural zone. Actual threshold levels for each zone would be specified after further analysis by Staff, but the urban band would include portions of any city, not just large cities, having sufficiently high densities. Meanwhile, the rural band would be assigned only to areas that are truly rural. Mr. Dawson estimated the effect of his rate design, assuming no change in overall loop revenue requirement, to be maintenance of the Manhattan rate of \$11.83; an increase in the urban rate from \$12.49 to \$13.00; and separation of the current rural zone, with its rate of \$19.24, into a suburban zone with a rate of \$17.00 and a rural zone with a rate of \$25.00.²¹⁵

Mr. Dawson offered four alternative proposals: relating loop costs more directly to the distance between the particular area and the central office; relating loop costs directly to loop length; retaining the current three-zone structure but redefining the bands so that more cities would be included in the urban band; and grafting on to Verizon's proposal a fourth rate band with a threshold of 150 access lines per square mile.

Verizon contended that the current rate zones are derived from TELRIC-compliant cost studies, but FairPoint stresses the Commission's discretion to design rates, on the basis of those studies, that take account of policy considerations. It alleges that such policy considerations led the Commission to adopt a low loop rate in Manhattan in order to jump start competition there, and it urges a similar initiative for other regions of the State. It contends that its proposal would benefit not just itself but all CLECs planning to serve smaller cities (and their customers); that increased UNE rates in the residual rural section will not impede the development of competition, given how little competition there is in the existing rural area; and that the Commission should choose among

²¹⁵ Id., p. 6.

FairPoint's proposals in part on the basis of which one would be easiest to administer.

Verizon responds that its own proposal was developed in cooperation with the CLECs and is opposed only by FairPoint. It contends that the plan would benefit FairPoint alone, does not reflect costs, "would be virtually impossible to administer,"²¹⁶ particularly if FairPoint is seeking to deaverage rates at a sub-central-office level, and would foreclose any possibility of competition in the rural parts of the State. It disputes FairPoint's expectation that the loop rate in the residual rural area would rise only to \$25.00, suggesting that it might go as high as \$36.00. Verizon questions the basic premise of FairPoint's proposal, noting that while loop cost may be correlated with population density at some level, the true predictor of costs is loop density, for which population density is only a surrogate. Beyond that, it maintains, it is necessary to distinguish between density in a central office serving area and density in a specific portion of that serving area, which may encompass a variety of population densities. In a large city, the high density area will cover a greater portion of the central office serving area than will be the case in a small city.

In response, FairPoint reiterates its policy arguments in favor of its proposal, stressing that it is now time to extend competition to a geographic segment that has not yet attracted it, and it says it does not object to Verizon's recovering the administrative costs of revising its rate structure in accordance with FairPoint's proposals.

FairPoint's concern for the development of local service competition in smaller cities is understandable, but Verizon has shown FairPoint's proposals, unsupported by any other party, to be flawed in both theory and practice. Among other things, there appears to be a very significant difference, not adequately recognized by FairPoint, between a densely

²¹⁶ Verizon's Reply Brief, p. 19.

populated area large enough to encompass an entire central office (or more) and one that constitutes only a portion of a central office that comprises as well areas of much lower density. I recommend rejection of FairPoint's proposals and continued use of three-zone deaveraging in the manner proposed by Verizon and seemingly acceptable to all other parties.

Land and Building Loading²¹⁷

1. Double Count Adjustment

WorldCom witness Dr. Ankum identified a double count of Verizon investments in remote terminal huts, which were included not only as direct investments but also as building investments taken into account in calculating the land and building factor. Verizon acknowledged the double count, lacked the data needed to remove hut investment from the overall land and buildings factor, and therefore dealt with the double count by "zeroing out" hut investment in the link cost calculator.

Verizon also accepted, either specifically or in principle, two adjustments to the land and building factor proposed by CLEC Coalition witness Dr. Kahn. As Dr. Kahn recommended, it adjusted the denominator of the land and buildings factor to include collocation equipment; and it excluded from the L&B factor the portion of building investment recovered through direct collocation charges. These modifications reduced the L&B factor from 0.186788 to 0.173151 and the corrected factor was applied to all central office equipment investment.

In its brief, WorldCom argues that these adjustments should be expected to reduce costs but, as implemented by Verizon, turn out to increase loop costs by more than \$1 a line, effectively replacing about \$19 million in direct hut enclosure investment costs with almost \$370 million in indirect land and buildings recovery. It adds that Manhattan, which never had any

²¹⁷ This is not specifically a loop cost issue, but the parties for the most part argued it as such and it therefore is considered here.

direct hut investment, is now burdened with an additional \$85 million of indirect land and buildings investment.

WorldCom presents in detail the calculations that lead to this result,²¹⁸ alleging, in effect, that Verizon fundamentally (and without explicit notice) changed its costing method. Initially, it says, the land and building factor was not applied to loop investments other than COTs, for the factor is associated only with equipment housed in central offices and COTs are the only loop equipment so housed. In recalculating the factor, however, Verizon applied the L&B factor not only to COT investments but also to enclosures, tower equipment, common costs, and channel units, thereby adding \$370 million of land and building investments. These changes, according to WorldCom, were not identified by Verizon in its testimony and can be detected only through careful scrutiny of Verizon's calculations. More substantively, the change introduces a new double count, between the right-of-way costs already added to outside plant investment for each remote terminal location and the L&B investment now loaded on the outside plant. And since hut investments were already recovered indirectly through the land and building factor, the additional land and building recovery associated with the new calculations effectively retains the initially identified double count.

In response, Verizon defends its calculations. It explains that it corrected not only the double count identified by WorldCom but also the mismatch between the inclusion of hut investment in the numerator of the land and buildings ratio and the exclusion from the ratio's denominator of the equipment enclosed in the hut. The mismatch could not be corrected by excluding hut investment from the numerator (for the same reason that the double count could not be corrected by removing hut investments from overall land and building costs), and Verizon therefore added remote terminal equipment investment to the denominator. That change transformed the factor into one

²¹⁸ WorldCom's Initial Brief, pp. 36-38.

applicable to equipment located in huts as well as in central offices, and it was therefore applied to RT equipment as well as to central office equipment. Verizon contends that the increased loop costs cited by WorldCom reflected not an increase in the total land and building costs recovered through UNE rates but was offset, via the reduction in the L&B factor, in the land and building costs recovered through rates for other UNEs, such as local switching. It contends that both approaches--application of the L&B factor to central office equipment only or to central office and hut-housed equipment alike--are equally valid. Nor does Verizon see any anomaly in applying the new L&B factor to RT equipment in Manhattan, noting that Manhattan's reduced hut requirements are properly reflected in the development of the L&B factor and that hut investment is neither over-recovered or under-recovered on a statewide basis. Calculation of a separate L&B factor for Manhattan, Verizon adds, would produce a higher figure due to the higher per-foot costs of building space.

WorldCom understandably characterizes the result it challenges here as counter-intuitive. But Verizon's reply brief reasonably explains, step-by-step, the result reached in the recalculation, and I see no basis for recommending any adjustment on this point. That conclusion, of course, rests in large part on Verizon's representation that total L&B costs recovered through UNE rates will not be increased, and that the increased loop costs will be offset by reduced recovery of L&B expense through rates for other UNEs. It says it will recalculate those rates as part of its compliance filing,²¹⁹ but it should instead do so sooner, in its brief on exceptions, and demonstrate there that the reductions in those rates are adequate to avoid any double count.

2. Collocation Equipment

²¹⁹ Verizon's Reply Brief, pp. 15-16, n. 33.

Ever since Module 2 of the First Elements Proceeding, there has been a concern, raised by some parties and recognized by the Commission, over possible double recovery of land and building costs through direct charges (recurring and nonrecurring) related to the space occupied by collocation equipment and the loading of land and building costs on UNE rates, retail rates, and certain collocation charges. In the present proceeding, the parties (on this point, primarily, the CLEC Coalition and Verizon) are in substantial agreement on how to correct for the problem through a downward adjustment to the land and building factor; the remaining disagreement concerns the magnitude of the adjustment.

Verizon proposes an offset of 1.1019%, based on the amount of space in its central offices for which there were pending or completed physical collocations as of May 1999. The CLEC Coalition sees a need for a forward-looking adjustment to that figure, given that the rates to be set will take effect sometime late in 2001 and will likely be in effect for several years. It cites evidence that the assignable floor space in Verizon's central offices has remained largely constant for the past two years; that the floor space occupied by collocators increased by 74% between May 1999 and May 2000; and that the central office space attributable to physical collocation continues to grow.²²⁰ It proposes to take the most recent percentage (1.764) and project it through May 2002, assuming a conservative growth rate; that yields a proposed adjustment factor of 3.2616%, which the CLEC Coalition advocates.

Verizon objects to a linear projection on the basis of the growth from May 1999 to May 2000, given that one year of data provides an inadequate basis for projection and that there are a variety of uncertainties regarding future collocation demand. It asserts that its own figure is conservative, since it assumes that the space occupancy ratio of the 187 central

²²⁰ CLEC Coalition's Initial Brief, p 12, citing Exhibits 449 (response to CC-VZ-169) and 410 (response to CC-VZ-146).

offices in which collocators are present can be extrapolated to all central offices.

Choosing the factor is difficult, because it requires projection on the basis of limited data. Verizon is right to express concern about a linear projection on the basis of a single year's growth; but its own figure, based on a single historical point, seems clearly too low, given the growth in collocation occupancy and the likelihood that it will continue. (Verizon suggests its figure is conservative in assuming that the occupancy rate for the 187 central offices housing collocators can be extrapolated to all central offices, but any such conservatism is seriously vitiated by the CLEC Coalition's observation that those 187 central offices account for more than 86% of the assignable space in all 525 central offices.²²¹)

Taking all of these factors into account, (and, in particular, the apparent on-going increase in collocation occupancy), I recommend a downward adjustment of 2.5%.

3. Application of a Forward
Looking to Current Adjustment

In addition to endorsing WorldCom's arguments, AT&T objects to Verizon's application of an FLC adjustment to reduce the land and building factor's denominator (and consequently increase the factor) to reflect aggregate TELRIC investment. It surmises that Verizon's adjustment is premised on the smaller space requirements of forward-looking switches and suggests that the reduction therefore should be applied to building investment (the numerator) rather than switch investment (the denominator), thereby reducing the factor.

Verizon responds that there is no evidence that forward-looking switches occupy less space than those in place in 1998, when its study was done. In addition, the purpose of the FLC adjustment is simply to overcome the absence of data

²²¹ CLEC Coalition's Initial Brief, p. 12, n. 25, citing Ex. 390, p. 1 of 35.

that would permit direct computation of the aggregate TELRIC switching investment.

Verizon has shown the adjustment to be proper in concept. As with the FLC generally, however, the amount of the factor appears overstated; it should be adjusted in a manner consistent with the FLC adjustment above.

Link Cost Calculator

Verizon's link cost calculator pulls together the various loop cost inputs and calculates an overall result. The CLEC Alliance criticizes the calculator in concept, charging that it is unverifiable and convoluted and lacks design algorithms that guard against absurd results. It urges the Commission to require Verizon to apply safeguards to the calculator or at least validate its results.²²²

Verizon responds (in addition to denying the alleged absurdities) that the calculator is just that, not a costing model, and that "the intelligence underlying Verizon's studies lies elsewhere."²²³ That is a fair description of the calculator's function, which appears to be purely ministerial; no process-related modification is needed.

AT&T alleged ten specific errors in the calculator's operation. Verizon's rebuttal testimony acknowledged and corrected for two of them (items A and B, as enumerated by AT&T²²⁴); the remainder (including one, item G, as to which Verizon acknowledged the error but applied a correction AT&T deems inadequate) are here discussed.

Item C. AT&T excluded network interface device (NID) investment in those circumstances where fiber was assumed to be run directly to the customer premises, obviating a NID, and replaced the associated cost with a \$5.00 per line block terminal cost. Verizon accepted AT&T's argument in part but

²²² CLEC Alliance's Initial Brief, pp. 63-64, 70-72.

²²³ Verizon's Reply Brief, p. 95.

²²⁴ AT&T's Initial Brief, pp. 66 et seq.

recalculated the adjustment by applying the environmental factor to the installation cost; AT&T claims there is no basis for doing so inasmuch as NID installation times are not derived from ECRIS, whose inadequacies are said to be remedied by application of the environmental factor. Verizon responds that the proper replacement for a NID is a KRONE block on backboard (an allegation AT&T regards as unsubstantiated; Verizon contends, however, that AT&T has suggested no alternative) and that application of the environmental factor is warranted inasmuch as NIDs are generally installed in conjunction with cables and terminals and it is therefore reasonable to assume that they are affected by the same factors.

The record supports the use of KRONE blocks and the application to their installation of the environmental factor (modified, of course, as recommended above). AT&T's \$5.00 figure is unsupported and should be rejected.

Item D. AT&T adjusted the link cost calculator to eliminate the cost for copper riser cable in situations in which fiber is assumed to go directly to the customer premises. It sees no support for Verizon's assertion that a fiber-to-customer-premises arrangement does not mean that the RT is located precisely next to each customer's demarcation point, and it asserts that Verizon has failed to prove the need for the copper distribution riser investment reflected in its loop costs.

Verizon responds that the situation at issue is one in which the fiber goes directly to the customer's building but copper riser would still be needed to reach customers on upper floors; notes that this description was part of the sworn testimony of its panel²²⁵; and professes not to understand the additional substantiation that AT&T would regard as remedying the alleged failure of proof. It asserts that AT&T has not shown any alternative arrangement to be more efficient and characterizes as "self-evidently absurd" the implicit contention

²²⁵ Tr. 3,368.

that an RT should be located on every floor in order to obviate riser cable.²²⁶

Verizon has adequately explained the need for copper cable in this type of situation. But while Verizon is fully persuasive in arguing that copper riser cable will be needed at least sometimes and perhaps most of the time, AT&T suggests as well that Verizon has failed to establish the frequency with which it is needed or to justify the amount of copper it assumes. Verizon should provide further detail in its brief on exceptions.

Item E. AT&T adjusted Verizon's calculations to replace the use of NEC DLC equipment with less costly Litespan equipment, contending that Verizon had failed to substantiate its assertion that only the Litespan prices were used in the calculator. Verizon responds that the price lists used in the link cost calculator included only the price of Litespan equipment, regardless of field engineering recommendations in favor of NEC that predated the policy of standardizing on the Litespan equipment. It suggests that AT&T misconstrues a generic term in the price table as referring specifically to the NEC product.

Verizon's response is adequate; no adjustment is needed.

Item F. AT&T substituted an average installed pole price of \$417 (consistent with its own testimony) for Verizon's range of \$385 to \$765 per pole. It characterizes this cost as consistent with an FCC survey evaluated by the National Regulatory Research Institute (NRRI) showing total installed costs of \$357 per pole, and it regards that as a more forward-looking estimate than a figure based on Verizon's own embedded costs.

Verizon contends it showed in rebuttal that AT&T's figures were based on a biased and misleading analysis of the survey data, focusing only on the low-end data points, and

²²⁶ Verizon's Reply Brief, p. 98.

disregarding AT&T's own testimony on geographic variation in these costs.²²⁷ It also charges that AT&T fails to explain why the forward-looking cost of a low-tech facility such as a pole should differ from actual current prices.

Verizon's rebuttal demonstrates both the propriety of not using a statewide average and the flaws in AT&T's analysis of the data it cites. Verizon's uncritical reliance on unadjusted embedded costs is troublesome, however; for even though poles are a low-tech facility, it is entirely possible that more efficient installation procedures, for example, could reduce installed costs. On exceptions, Verizon should present an analysis of recent trends in its own pole costs; for now, I recommend a 10% downward adjustment to Verizon's figures.

Item G. AT&T adjusted Verizon's figures to reflect equal sharing of poles outside Manhattan with electric utilities and, in the middle density zone, equal sharing of the telephone portion of pole investment between telephony and cable. Verizon acknowledged that it erred in not doing so, but AT&T contends in brief that Verizon in effect took back that concession by eliminating "an adjustment to the multiple sheaths between poles that [Verizon believed was] not appropriate in the distribution portion of the link."²²⁸ AT&T contends that Verizon has not supported the change to AT&T's adjustment.

Verizon replies only that it corrected its error "using the same sharing factor as was used for feeder cable structure."²²⁹

While Verizon has the burden of proof in this proceeding, its opponents have the burden of going forward with evidence challenging particular aspects of Verizon's study. Verizon has not specifically shown why AT&T's multiple sheath adjustment is inappropriate, but given the posture of the issue, it had no need to, for AT&T never explained why the adjustment

²²⁷ Id., p. 99, citing Tr. 3,368-3,371.

²²⁸ AT&T's Initial Brief, p. 72, citing Tr. 3,375.

²²⁹ Verizon's Reply Brief, p. 100, citing Tr. 3,375.

was offered. AT&T simply called for sharing of investment,²³⁰ and Verizon applied the sharing factor.²³¹ For now, that appears to end the matter, but AT&T may provide further explanation on exceptions for the aspect of its adjustment that Verizon did not adopt, and, if it does so, Verizon may respond.

Item H. AT&T eliminated the application of the 40% cable fill factor to pole investment, on the premise that the poles it costed out had ample space, after accounting for sharing, to accommodate additional cable strands. It disputes-- or at least regards as unverifiable--Verizon's denial that a fill factor is applied to poles, citing Verizon's acknowledgement that "pole investment per working pair is determined by dividing pole investment per pair by the utilization rate for the supported cable," and it argues that if pole investment per pair was based on working pairs, application of the cable utilization rate would double count the fill factor.²³²

Verizon responds that its testimony, including the sentence preceding the one quoted by AT&T, makes clear that pole investment per pair was based not on working pairs but on the size of the supported cable, that is, on the total number of pairs in the cable. It charges that AT&T "contorts logic and plain English in the desperate search for some latent ambiguity that will support AT&T's claim that Verizon has not . . . [met] its burden of proof."²³³

Verizon's explanation is adequate; no adjustment is needed.

Item I. AT&T charges that Verizon in effect applies too low a fill factor to innerduct by first assuming that each conduit carries three innerducts, two of which are used and one of which serves as a spare, thereby establishing a tacit

²³⁰ Tr. 1,429, item G.

²³¹ Tr. 3,375.

²³² AT&T's Initial Brief, p. 73, citing Tr. 3,371.

²³³ Verizon's Reply Brief, pp. 100-101.

utilization factor of 66.7%; and then applying a 60% utilization factor, reducing the effective factor to only 40%. AT&T would eliminate that second step. It contends that Verizon's rebuttal explanation, which relied on engineering judgment, has not been shown to be consistent with TELRIC costing and that Verizon's effective unused capacity of 60% "cannot be justified as either forward-looking or efficient."²³⁴ In response, Verizon cites its rebuttal explanation that the 60% utilization factor accounts for the spare ducts in a duct bank rather than the spare innerduct in a duct, and it alleges no support for AT&T's challenge to the efficiency of these arrangements.²³⁵

Verizon's rebuttal describes in detail the calculations underlying its result but fails to disprove the reasonable allegation that it overstates costs through overlapping fill factors that provide more excess capacity than is needed. Verizon has not borne its burden of proving these arrangements reasonable, and AT&T's adjustment should be adopted.

Item J. As with respect to poles, AT&T eliminated application of a cable fill factor to conduit, charging that here, too, if Verizon's calculation of conduit cost per pair were based on working pairs, application of the 60% duct utilization factor would result in a double count of the fill factor. Verizon responds by citing its rebuttal testimony that it does not apply a cable utilization factor to conduit and that conduit investment per working pair is developed by dividing conduit investment by the number of working pairs in the cables supported by it, as a result of which conduit investment per working pair declines with cable size.²³⁶

Verizon's response is persuasive; no adjustment is needed.

²³⁴ AT&T's Initial Brief, p. 74.

²³⁵ Tr. 3,372-3,373.

²³⁶ Tr. 3,374.

Dark Fiber

"Dark fiber consists of a continuous fiber optic strand within an existing in-place fiber optic sheath . . . owned by Verizon but . . . not connected to electronic equipment needed to power the line in order to transmit information."²³⁷ Verizon offers dark fiber only on an as-is, where-available basis, "where in-place spare facilities exist."²³⁸ Rhythms/Covad accordingly argue that Verizon incurs no capacity costs associated with dark fiber and should be permitted to recover only the operation and maintenance costs of dark fiber actually used by CLECs. They argue as well that no fill factor should be applied to dark fiber inasmuch as fill factors are intended to compensate Verizon for the costs of spare, but most likely unused, capacity; but no spare dark fiber capacity need be provided. In addition, they contend that dark fiber is itself the product of installing spare capacity whose cost is already recovered through the fill factors applied to loops and interoffice facilities.

Verizon responds that even if it incurs little or no investment-related short-run cost in providing a spare facility, TELRIC requires allocating the total, forward-looking long-run cost among all users of the element, CLECs included. It contends as well that the utilization factor should apply to all fiber used by CLECs, regardless of whether it is dark or lit, inasmuch as there is no real distinction between the two sorts of cable and Verizon draws cable to fill dark fiber orders from the same pool that it uses to provision other types of fiber. In each case, it contends, the order means that there is one less spare available to provide a cushion for growth and churn. Rhythms/Covad reply that Verizon's proposed ability to recapture dark fiber from CLECs when necessary means that the purchaser will not have complete use of the facility as TELRIC

²³⁷ Verizon's Initial Brief, p. 155.

²³⁸ Id., p. 156, citing Tr. 5,646 and Verizon's tariff PSC 916 §5.20.2.4.

contemplates, and that it is Verizon, not Rhythms/Covad, that departs from TELRIC in this regard.²³⁹

That dark fiber is provided only on an as-available basis would not in itself mean that CLECs purchasing it should pay no capacity costs. As Verizon reasonably argues, when all is said and done, the provision of a dark fiber cable would mean one less spare was available for other purposes, and the purchasing CLEC should bear the associated costs.

What may make an important difference, however, is the possibility that even after a dark fiber cable is provided, Verizon may be able to recapture the fiber if needed. That would mean that the available spare capacity had not been diminished, at least not to the same extent as if the fiber were irretrievable; and the capacity costs associated with providing the fiber would be correspondingly reduced or eliminated. The record is unclear on Verizon's ability to effect such a recapture,²⁴⁰ and Verizon should clarify that situation in its brief on exceptions.

House and Riser Cable

"House and riser (H&R) is a communications path within a multi-story building that provides access to the network side of a customer's [network interface device] from a point of interconnection within the building (frequently in the basement)."²⁴¹ Verizon's study identified the investment cost of the riser cable itself and the material and labor costs associated with terminating it at each end--the basement point of interconnection and the end user's premises. House and riser rates comprise (1) house and riser access service--the element itself as leased--and (2) house and riser connection service, encompassing additional equipment needed to connect the

²³⁹ Rhythms/Covad's Reply Brief, p. 19; Tr. 5,647-5,648.

²⁴⁰ Rhythms/Covad cite the claim only to a New Jersey proceeding (Tr. 5,646, n. 68).

²⁴¹ Verizon's Initial Brief, pp. 160-161.

carrier's loop and Verizon's house and riser element as well as certain cross-connection charges.

1. House and Riser Access Service

In criticizing Verizon's proposed house and riser costs, AT&T notes, first, that they are as much as three times the costs claimed in the First Elements Proceeding, a change attributable to a reduction of the utilization factor from 65% to 40% and to application of the environmental factor previously discussed. With respect to the latter, AT&T would simply adjust house and riser rates by applying generally the modified ACFs it advocates. As for utilization, AT&T contends Verizon has tried to justify the reduced fill factor only on the grounds that it is the same as the factor used for loop distribution plant generally, but AT&T contends that utilization factors for multi-dwelling units could be expected to be higher because the serving area is of fixed size. AT&T would nevertheless apply the 56% fill factor it recommends for distribution plant generally. The CLEC Coalition, however, urges retention of the 65% fill factor proposed by Verizon and adopted in the First Proceeding,²⁴² contending that Verizon has not borne its burden of proving a lower factor warranted and citing its witness Kahn's testimony that "the incremental cost of reinforcing house and riser capacity is less than the cost of doing the same for either aerial or buried outside plant facilities. The utilization rate for riser cable would accordingly be greater than that for distribution facilities."²⁴³

The Federal Agencies similarly contend it is unreasonable for Verizon to be proposing rates that exceed those currently tariffed by two to three times, inasmuch as the tariffed rates reflect embedded costs and older technologies. They regard higher house and riser costs in Manhattan as anomalous inasmuch as the larger buildings should warrant larger

²⁴² See First Elements Proceeding (Phase 2), Tr. 4,352.

²⁴³ Tr. 4,369.

cables with lower unit costs per wire pair. They note the importance of the issue to them inasmuch as most Federal offices in large cities are located in multi-story buildings.

Verizon responds that the currently tariffed house and riser rates are the TELRIC-based rates set in the First Elements Proceeding, and it cites its general explanations of why proposed rates exceed current rates and why environmental factors may lead to higher unit costs in Manhattan. It regards the 40% utilization factor as conservative, noting the practical and economic difficulties of adding cable inside a building in contrast to the modest cost of providing larger cables at initial installation.

AT&T also would reduce basement backboard investment by 50% and upper floor backboard investment by 75% to correct for what it regards as Verizon's understatement of backboard capacity. It contends that Verizon assumes that a backboard receives only two blocks and therefore has a maximum capacity of 100 pairs of cable; AT&T maintains the proper figures are four blocks and 200 pairs of cable. The situation is compounded on upper floors, where Verizon contemplates using a backboard to mount only one KRONE block.

Verizon disputes AT&T's adjustments, contending that even though one backboard can hold up to four blocks, two blocks are needed for each 50 pair cross-connection and that four blocks--and one complete backboard--are needed for each 100 pair cross-connection.²⁴⁴

Verizon has adequately explained its calculated backboard investment; no adjustment is warranted. With respect to fill factors, Verizon identifies countervailing factors that might offset those tending to increase house and riser cable fill factors in comparison with those for distribution cable generally; but it has not shown why it now proposes to apply the distribution fill factor to house and riser cable even though it proposed a 65% fill factor in the First Proceeding. Taking

²⁴⁴ Verizon's Initial Brief, p. 165, citing Tr. 3,429-3,430.

account of all these considerations, I recommend a fill factor here of 60%

2. House and Riser Connection Service

AT&T contends that both offered alternatives--the "50 pair terminal charge" if the CLEC's loop is within cross-connect range of Verizon's house and riser terminations, and the "building set-up charge" if the loop is beyond--are excessive. In its reply brief, Verizon notes that the building set-up service rate and the associated service have been eliminated from its tariff; they are, accordingly, not further discussed.

With regard to the situation where the CLEC is within cross-connection distance, AT&T objects to Verizon's proposal to charge the CLEC for half a backboard, a 50-pair block, and connections to the block, contending that the use of the additional block is precluded by the FCC's requirement of a single point of interconnection. It characterizes the charge as violating competitive neutrality, inasmuch as Verizon itself would continue to have a direct connection to the existing basement terminals, without need of the additional equipment. AT&T urges an interim costing construct "that assumes the existence of multiple carriers, a single point of interconnection, and does not disadvantage CLECs by requiring them to pay for additional unneeded equipment."²⁴⁵ A permanent arrangement would be pursued in a collaborative process. Verizon, however, sees no discrimination, contending that the CLEC can supply its own connection block, thereby avoiding the 50-pair terminal charge, and that its offering satisfies the single point of interconnection requirement. It states its willingness to negotiate other forms of single point of interconnection on a case-by-case basis.

From a costing point of view, it appears that a CLEC can avoid the charge at issue here, and no action in this proceeding is warranted. To the extent provisioning issues are

²⁴⁵ AT&T's Initial Brief, p. 128.

presented, they should be dealt with in other contexts, general or specific.

Finally, AT&T urges rejection of the proposed house and riser asset inquiry charge, contending that requiring CLECs to bear the costs generated by historical inadequacies in Verizon's inventory records would violate forward-looking costing principles. Verizon notes that it maintains an ownership database that is available free of charge on its website and that the charge at issue is imposed only when the database fails to resolve an ownership question and intervention by engineers is needed. It contends these costs are incurred and are calculated on the basis of forward-looking work times.

Verizon argues that it has estimated these costs on a forward-looking basis and that it is not requiring CLECs to fund the development of a data base; but it fails to respond to the suggestion that these costs would not be incurred at all had its embedded record keeping system been designed with the provision of UNEs in mind. If that is so, a strict TELRIC construct might well require disallowing the costs even if Verizon had not acted imprudently, in the classical regulatory sense, in designing its system. At the same time, there is no showing of imprudence; the costs are real and calculated in a forward-looking manner; it seems likely that at least some of these costs would be incurred in connection with a database that contemplated provision of UNEs; and denying the costs outright would incur the risk of assuming a "fantasy" record keeping system. On balance, I recommend allowance of the costs.

SWITCHING COSTS

Introduction

Verizon proposed the following rate elements for local switching:

- Line Ports (analog, digital, and coin);
- Trunk Ports (digital); and

- Local Switch Usage (terminating and originating).²⁴⁶

The unbundled switching element includes all features that can be provided through the switch, which Verizon considers to be consistent with the FCC's definition of the switching element as including all features that the switch is capable of providing, except for those that require specific, unique hardware, which are separately priced. It also determined a "feature-free" switch usage rate that excludes all vertical feature costs.

To determine the material costs associated with local switching, Verizon used the switching cost information system (SCIS), a switch cost model created and maintained by Telcordia, Inc.²⁴⁷ The SCIS/Model Office (SCIS/MO) module lets the user specify a model central office and determines the associated costs. Verizon requested its engineers to specify forward-looking model offices for each of the three geographic zones studied and for both of the switch types (Nortel DMS-100 and Lucent 5-ESS) used by Verizon. Switch vendor list prices are built into SCIS, and the discounts off list price offered to particular customers, a very controversial issue here, are supplied as inputs when SCIS is run. Verizon asserts that SCIS is an established and widely used costing tool whose results have been accepted in numerous regulatory proceedings and whose calculated material costs come within a reasonable approximation of those produced using the switch vendors' own pricing tools.

In addition to raising the vendor discount issue already noted, the CLECs challenged Verizon's switching study on other grounds including the relative proportions of Nortel and Lucent switches and the operation of SCIS. In addition, issues were raised concerning the allocation of switching costs between switch usage and non-usage sensitive ports. This section begins

²⁴⁶ Verizon's Initial Brief, p. 230.

²⁴⁷ Telcordia is the successor to Bellcore, which, in turn, took over many functions performed, before the breakup of AT&T in 1984, by Bell Labs.

with the vendor discount issue, perhaps the most hotly contested in the entire proceeding.

Vendor Discounts and Switch Material Costs

1. Background

In Phase 1 of the First Elements Proceeding, the Commission expressed a lack of confidence in the costs suggested by the conflicting studies submitted by the parties, and it set rates on the basis of a Staff analysis. It noted, among other things, that in making an adjustment to capture the downward trend in switching costs, it "did not take account . . . of the atypically large discounts received by [Verizon] from its vendors after 1994 in connection with a major switch replacement program."²⁴⁸ The Commission so decided in large part on the basis of Verizon's attribution of those large discounts to the switches' having been purchased as part of its program to replace analog switches with digital. Verizon argued that vendors were willing to offer unusually large discounts in connection with such replacement programs (to encourage upgrades that create a market for new software), but that the replacement program was nearly complete and the discounts therefore were unlikely to continue or recur. On rehearing, the Commission rejected both Verizon's broadbased critique of the Staff method for setting switching costs as well as WorldCom's claim that the price reduction factor was too low, finding that WorldCom had "offered no new reason for rejecting the fully explained premise that the unusually large discounts associated with analog to digital conversion would not be replicated."²⁴⁹

Later, in Phase 3 of the First Proceeding, evidence was presented suggesting that the deep discounts might, in fact, be available for all purchases of new switches, not only large-scale replacement programs. Several CLEC parties moved to reopen

²⁴⁸ Phase 1 Opinion, p. 85, n. 1. See also a similar statement in Attachment C to that opinion, Schedule 2, page 1 of 3.

²⁴⁹ Phase 1 Rehearing Opinion, p. 40.

Phase 1 to redetermine switch costs in light of the newly adduced evidence; Verizon objected on a variety of grounds including the alleged insignificance of the new evidence and the need to avoid selective updates that could produce unfairly skewed results. The Commission was unimpressed by Verizon's belittling, as "inadvertent misstatement," of its own assertion that the higher discounts were uniquely associated with the analog-to-digital replacements and by its suggestion that the new information lacked significance because of the manner in which switches are purchased.²⁵⁰ The Commission nevertheless denied the motion to reopen, citing the risks of selective adjustments and adding that the new evidence, even if borne out, could not generate a simple arithmetic correction to its Phase 1 calculations. It went on to note as well the likely desirability of reviewing UNE rates in general before too long, and it therefore stated its intention to institute the present proceeding. Finally, in view of the uncertainties associated with the newly adduced evidence, it left switching rates temporary, subject to future refund or reparation, even though all other UNE rates set in the First Elements Proceeding have become permanent.

It is against this background that the discount issue in the present proceeding must be considered. The parties dispute the qualitative issue of whether to posit new switch discounts or lower "growth" discounts, i.e., the discounts associated with adding capacity to existing switches; they also

²⁵⁰ In the course of its discussion, the Commission pointed out that it had "no information suggesting that [Verizon's] errors were deliberate. But careless errors of this sort in a party's presentation are nonetheless distressing and disruptive of the process." (Case 95-C-0657 et al., Order Denying Motion to Reopen Phase 1 and Instituting New Proceeding [issued September 30 1998] p. 9, n. 1.) Because Verizon's motivation and culpability are again raised by its opponents in this proceeding, I should note that I continue to share the Commission's impression then: the evidence newly adduced in Phase 3 suggested distressing and disruptive carelessness but not deliberate misconduct.

pose quantitative issues regarding the calculation of the discount.

2. Arguments

Verizon contends, generally, that the use of pure growth discounts, rather than the higher new switch discounts, is more consistent with fundamental TELRIC principles.²⁵¹ Citing the FCC's statement in the Local Competition Order that TELRIC-based rates must capture the "incremental costs that incumbents actually expect to incur in making network elements available to new entrants,"²⁵² as well as the Commission's use, for purposes of costing other elements, of material prices based on the latest Verizon/vendor contracts for that material, Verizon contends that the discount it will actually receive when purchasing new switching equipment now and in the future is the growth discount. It reasons that digital switches are already fully deployed and will never be replaced by new digital switches--inasmuch as the next level of technology will become available by the time replacement is necessary--and that switch installations will be needed only to accommodate growth. It argues as well that the switch vendors inflate their new-switch discounts in the interest of creating good will, secure in the knowledge that they will never actually be used, and that, even if TELRIC is understood to require determining the costs of purchasing, all at once, an entire new network, there is no meaningful way to determine the price of doing so. Indeed, it adds, the price for total network replacement would likely exceed the currently prevailing price, given the need to strain resources to produce equipment much more

²⁵¹ Though asserting this principle, Verizon acknowledges that the point has never been resolved by the Commission. It cites my contrary view in the Phase 3 Recommended Decision (at p. 35) and notes that its exception to my conclusion there was never ruled on by the Commission, which decided the issue on other grounds. (Verizon's Initial Brief, p. 240, n. 555).

²⁵² Verizon's Initial Brief, p. 241, citing Local Competition Order ¶685.

speedily than it would otherwise be needed. Verizon argues further that even if TELRIC pricing must contemplate replacement of the entire network, any such replacement would likely be done not in one fell swoop but through the retirement of old assets and the addition of new ones; and that the installation of total needed switching capacity all at once, without contemplation of growth purchases, would incur additional costs in view of the need to provide the needed excess capacity at the outset. Finally, Verizon argues that if incumbent LECs purchased new switches only, their prices would be higher, inasmuch as the deep discounts are offered by the vendor in the hope of making money on growth additions--a prospect ruled out by the hypothetical.

Verizon maintained that the actual level of discounts to be applied must be based on its existing contracts with its vendors. Because those contracts are complex and do not readily permit calculation of the discount for a particular purchase, it conducted the "vendor pricing exercise," in which it described to its vendors the switch configurations used in the model offices it studied and asked them to price out, on the basis of the current contracts, the overall growth discount that would be applied. It stressed that the pricing exercise was simply a device for calculating discounts applicable to a particular switch configuration in accordance with the existing contracts and that it was not a cost model that could be expected to generate the actual prices it would pay.

AT&T contends that because Verizon does not assume new- switch discounts, its study failed to model a reconstructed local network as required by TELRIC and thereby substantially inflated its switching costs. It maintains that the actual process by which Verizon upgrades and adds capacity to its existing switches on a piecemeal basis is irrelevant to a TELRIC analysis, and it notes the testimony of Verizon witness Curbelo in Phase 1 of the First Proceeding that he would change the numbers in his switching cost study if it turned out, contrary to his then-existing belief, that the aggressive switch purchase

discounts were available from vendors.²⁵³ It charges that Verizon nonetheless excluded new-switching discount data from its presentation in this proceeding, even though it had obtained such data from its vendors as part of the switch pricing exercise.

AT&T points as well to a decision by the United States District Court for the District of Delaware rejecting Verizon's argument against the use of new switch discounts and citing Verizon witness Taylor's testimony that the FCC's Local Competition Order requires total reconstruction of the entire system.²⁵⁴ Against this background, it characterizes Verizon's use of growth rather than new switch discounts as "inexplicable, except as a bold and deliberate attempt to substantially inflate [its] claimed switching costs."²⁵⁵ It urges use of its restatement of Verizon's cost study, which uses the higher new-switch discounts. It suggests that those discounts may, in fact, be conservative inasmuch as actual competition for Verizon's business in the situation contemplated might produce prices better than those in the preexisting contracts.

In criticizing the vendor pricing exercise, AT&T disputes at considerable length Verizon's statement, in its rebuttal testimony, that its latest contract with Lucent modified the discount initially taken into account in the pricing exercise.²⁵⁶ Verizon responds that AT&T's analysis bears out the complexity of the contract, which led it to undertake the vendor pricing exercise in the first place, and that Lucent shares Verizon's understanding of the contract rather than AT&T's.²⁵⁷ In its reply brief, AT&T reiterates its claim that Verizon is ignoring TELRIC's long-run requirement by focusing only on the

²⁵³ AT&T's Initial Brief, p. 83, citing Tr. 1,490 and First Elements Proceeding, Tr. 3,006.

²⁵⁴ AT&T's Initial Brief, pp. 85-86, citing Bell Atlantic-Delaware, Inc. v McMahon, 80 F. Supp. 2nd 218 (D. Del. 2000).

²⁵⁵ AT&T's Initial Brief, p. 86.

²⁵⁶ Id., pp. 88-104.

²⁵⁷ Verizon's Reply Brief, p. 133, citing Tr. 3,465.

short-term growth of existing switches; and it disputes the relevance of Verizon's assertion that the next generation of new switching equipment will not be based on today's architecture. It characterizes as "semantic game playing"²⁵⁸ Verizon's argument that it would be unrealistic to assume one-time replacement of its existing switching network, contending that that is the premise of TELRIC and that TELRIC analysis is not deterred by the prospect that costs might change in the market if the forward-looking efficient TELRIC network actually had to be constructed tomorrow. AT&T disputes as well Verizon's argument that even switching equipment purchased at the new-switch discount will have to be replaced in transactions using the growth discount, contending that technological obsolescence is a depreciation issue already accounted for; and it characterizes as "absurd"²⁵⁹ the contention that the pricing exercise was intended to identify discounts rather than prices.

WorldCom argues to similar effect, alleging as well that the SCIS model is a closed black box highly dependent upon proprietary pre-processing but that it is clear that the use of growth discounts--contrary to TELRIC principles, the Delaware District Court Decision, and the FCC's finding that the price of new switches represents efficient switching costs and that the price of growth additions does not--has contributed to the substantial overstatement of Verizon's switching costs. As a result, WorldCom contends, Verizon's unbundled switching rates are out of line with those in other states that have made local competition possible. It contends the proper discounts far exceed the growth discounts Verizon used and that "the impact on the rates that Verizon charges its competitors is severe enough to threaten competition in New York if the Commission does not reject Verizon's proposal and set UNE switching rates by employing the initial switch discounts."²⁶⁰ Z-Tel offers similar

²⁵⁸ AT&T's Reply Brief, p. 30.

²⁵⁹ Id., p. 31.

²⁶⁰ WorldCom's Initial Brief, p. 71.

arguments, noting Verizon's claim that the new-switch discount cited by vendors is unrealistically low because the vendors do not anticipate that it will be actually used and suggesting that Verizon's switch pricing exercise may likewise fail to generate a least cost price inasmuch as it is an exercise rather than a serious and competitive bid.

In response, Verizon cites a recent decision of the United States District Court for the Northern District of New York, in which the court stated that forward-looking cost determinations "must be based on the incremental costs that an incumbent local service provider actually incurs or will incur."²⁶¹ Verizon contends this means use of the growth discount, consistent with the incremental way in which networks are totally replaced in the long run. It maintains that without the prospect of growth additions at a higher price, steeply discounted new switch prices would not exist; contends that the Delaware decision cited by the CLECs is neither controlling here nor representative and "is, quite simply, badly reasoned and wrongly decided";²⁶² disputes the suggestion that the Commission, in its order instituting this proceeding, already decided the issue in favor of the new-switch discount; and contends that the earlier testimony of its witnesses cited by AT&T says nothing about the discount assumptions to be made for pricing purposes. Verizon defends as well its vendor pricing exercise, reiterating that its sole purpose was to obtain an assessment from the vendors of the price that would be charged under existing contracts. In Verizon's view, that is the sole non-speculative basis for determining a relevant price.

3. Discussion

As Verizon recognizes, I stated my general view on switching discounts in the Phase 3 recommended decision,

²⁶¹ MCI Telecommunications Corp. v. New York Telephone Co., No. 97-CV-1600, slip opinion, p. 25 (NDNY March 7, 2001).

²⁶² Verizon's Reply Brief, p. 130.

rejecting Verizon's position. The Commission had no need to resolve the discount issue then, since it disallowed the switching costs there under review on other grounds,²⁶³ but my comments in the recommended decision remain pertinent, though not dispositive:

It remains necessary, of course, to identify a level of vendor discounts to recognize in determining any Phase 3 switching costs that might be properly allowed. [Verizon] contends that the proper level is the growth discount, given that most of its purchases will be incremental to its existing switches, and it characterizes as bizarre the assumption that it would in effect purchase new digital switches to replace its existing ones. But that "bizarre assumption" is, in fact, central to proper application of the TELRIC construct to switching costs. By definition, a TELRIC study examines the cost of providing a particular increment of output: the increment from a zero level of output to the current level of demand. In the switching context, TELRIC identifies the costs that would be incurred by an efficient firm in purchasing, combining, and processing inputs (given the best available technology) to produce the amount of its product(s) currently demanded. "Growth" discounts thus are not applicable in a TELRIC switching cost study. Accordingly, to the extent it is necessary to factor vendor discounts into an estimate of Phase 3 switching costs, the new switch discount should be used.²⁶⁴

Two and one-half years later, and with the benefit of abundant and forceful argument on both sides, I continue to believe that conclusion to be valid in theory, at least under what may be termed a "strong" TELRIC approach. But several factors preclude its adoption here and now.

First, while the FCC rule remains in effect pending review, the law on TELRIC is developing. As discussed above,

²⁶³ Phase 3 Opinion, pp. 23-26.

²⁶⁴ Phase 3 Recommended Decision, pp. 34-35 (footnote omitted).

the uncertainty does not warrant suspending the case, but we should not disregard the extent to which application of a purely new-switch discount, on the premise that a hypothetical new network designed to serve the full increment of demand was dropped into place instantaneously, could be problematic under the Eighth Circuit's decision. And while we are not, of course, subject to the Eighth Circuit's direct authority, (and its decision in any event has been stayed), the decision was relied on by Judge Kahn in MCI v. New York Telephone. Judge Kahn's statement, in light of the Eighth Circuit's decision, that "price determinations made on forward-looking cost calculations cannot be based on the forward-looking costs of an 'idealized network,' but must be based on the incremental costs that an incumbent local service provider actually incurs or will incur"²⁶⁵ may not support Verizon's position to the extent Verizon claims in citing it. But it certainly calls into question the propriety of an exclusively new-switch discount assumption premised on an instantaneously installed hypothetical network.

A further, factual problem, independent of the legal one and perhaps more important here, is the difficulty of ascertaining what the new-switch discount would be in the hypothetical situation of an instantaneously installed new system. Verizon argues persuasively that the existing new-switch discount is set partly in contemplation of additional sales to which only the growth discount would apply. A hypothetical in which there were no growth-discount sales might well be one in which the new-switch discount differed from its current level. Any decision to rely on the new switch discount would require adjusting it on at least that account.

None of which is to say that switching costs should be determined, as Verizon urges, solely on the basis of the growth-switch discount as determined through its vendor pricing exercise. Among other things, it seems likely that discounts are negotiated between Verizon and its vendors in light of the

²⁶⁵ MCI v. New York Telephone, supra, slip op. p. 25.

particular purchases contemplated, and there is no reason to assume that a forward-looking construct in which an entire network was being installed (even over time rather than instantaneously) would have produced the contracts on the basis of which Verizon's discounts were calculated. It is entirely possible that the prospect of such an extensive series of purchases could have generated discounts substantially higher than those under the existing contracts, and a forward-looking analysis must take account of that prospect.

When all is said and done, this is an issue on which the parties have fought hard and reached a stalemate: each has shown the other's position to be untenable. Regardless of the decision ultimately to be reached on the FCC's rule, this record simply establishes no "right" level of discount to use--in part, as noted, because the very act of assuming a switch purchase pattern would affect the data on the record regarding the level of the respective discounts.²⁶⁶ Discounts will depend on a host of factors, including the contracts negotiated between vendor and purchaser, and we have no reason to believe that Verizon's existing, complex contracts, relied on by both sides as the basis for the radically different discounts they advocated, would, in fact, read the same had they been negotiated in the various contexts that TELRIC or other forms of long-run forward-looking costing might lead us to posit.

In these circumstances, the best course of action appears to be to try again to find some surrogate means of estimating switching investment. The record-based parameters of the exercise, reflecting each party's position on the discount issue, are Verizon's statewide average figure of approximately

²⁶⁶ The difficulty is analogous to those posed by situations, known in both physics and the social sciences, in which outcomes are influenced by the mere fact of observation.

\$128 per line²⁶⁷ and AT&T's average HAI input figure of \$95 per line.²⁶⁸ The arithmetic mid-point between those parameters is about \$111; and that point is close to the results of two disinterested studies discussed by the FCC in its July 1997 Notice of Proposed Rulemaking in the Universal Service Proceeding: the FCC staff estimated, on the basis of ILEC depreciation studies, a per-line cost of \$110, and a majority of the state members of the Joint Board recommended a per-line cost of \$113.²⁶⁹ In its ensuing decision, the FCC adopted a per-line cost of about \$95,²⁷⁰ based on a regression analysis of historical data that took account of foreseeable trends. Outright adoption of that figure, favored by AT&T, is properly disputed by Verizon, which stresses the FCC's observation that the principles used in the Universal Service Proceeding cannot necessarily be transferred to UNE pricing. Nevertheless, it provides warrant

²⁶⁷ Calculated from the zone-specific estimates set forth in Exhibit 323, Workpaper B-2, §4 (3rd revision October 19, 2000). Verizon's October 19 revisions to its initially filed exhibit, which generally reduced its proposed rates, were submitted with its October 19, 2000 rebuttal testimony and are part of Exhibit 332 (333-P for the proprietary version). The workpapers underlying that update were omitted from the filing, but no party complained of that omission or, as far as I am aware, requested the workpapers. In undertaking the computations associated with this recommended decision, Staff last month requested the workpapers, and they were submitted to Staff electronically. Verizon should make them similarly available to any party now requesting them.

²⁶⁸ Exhibit 314, Inputs Portfolio, p. 117, taking the \$87 per line variable cost and adding to it the relevant fixed cost, thereby producing a figure comparable to Verizon's \$128.

²⁶⁹ Universal Service Proceeding, Further Notice of Proposed Rulemaking (rel. July 18, 1997) ¶¶130, 128. Each of those figures is estimated in the manner described in the preceding footnote.

²⁷⁰ Universal Service Proceeding, Tenth Report and Order ¶296 (rel. November 2, 1999), again estimated in the manner described earlier. This figure is the basis for AT&T's HAI input.

for a figure somewhat below the midpoint of the parameters previously identified.

Taking all these factors into account, I recommend for now an estimate of per-line switching costs of \$105. The parties are free, as always, to challenge that result on exceptions; but another course of action they may wish to consider would be to convene a settlement conference aimed at stipulating to the number here suggested or to some other number that both sides could accept. If the parties wish to do so, they should consult with each other and notify me within ten days of the issuance date of this recommended decision. I anticipate that another judge would serve as neutral at any such settlement conference, so that parties could speak freely without concern about compromising their positions in any further litigation on exceptions.

Finally, it is necessary to extend this discussion to the costs of tandem switching. The same issues related to vendor discounts are posed here, and they warrant reducing Verizon's cost estimate by a percentage equal to that resulting from the reduction recommended above for end-office switches. There is, however, the added factor of Verizon's inadequately explained premise that the vast majority of its tandem switches will be supplied by one of its two vendors, in contrast to Verizon's premise of an equal mix with regard to end-office switches. In a dispute made moot by the recommended resolution on switch discounts, WorldCom challenged that equal mix, urging that it be weighted more toward the less expensive vendor, and Verizon defended the equal mix (in my judgment largely persuasively) on the basis of strategic diversity and the benefits of being able to pit one vendor against the other.²⁷¹ In the tandem context, however, Verizon defends a decidedly lopsided mix on the basis of "the total number of trunks

²⁷¹ Verizon's Initial Brief, p. 234. The details of this issue, including the evidence on which of the two vendors was the less costly, are proprietary.

provided by each [vendor's] technology."²⁷² That claim offers no basis for finding that the mix is optimal from a cost perspective or for justifying so great a departure from the equal mix persuasively advocated by Verizon for end-office switches. In view of Verizon's burden of proof, and to impute more cost-conserving purchasing practices, I recommend that tandem switching costs be reduced by an additional 10%, after adjustment to reflect the cost conclusion reached above. Here, too, the parties are free to modify that result through negotiated stipulation.

EF&I Factor

AT&T contends that Verizon's 43.5% switch "engineer, furnish, and install" (EF&I) factor is overstated, exceeding by 72% the factors used by other telephone companies. It proposes a 25% factor, comprising what it calculates to be Verizon's own average 15% factor for vendor engineering and installation, to which it adds 10%, representing the average of the 8%-to-12% range of other companies' telephone company engineering and installation. Verizon claimed, among other things, that the components of AT&T's analysis reflect different investment bases, but AT&T maintains that it relied solely on forward-looking investments: the 15% component was derived by running SCIS using forward-looking investments, and the other data in its calculation were those proposed for use in the FCC's Universal Service Proceeding, which involved the determination of forward-looking investments.

AT&T argues as well that in an FCC proceeding, Sprint concurred that an 8% EF&I factor was reasonable, and it disputes Verizon's claim that the 8% factor covers only engineering, allowing a mere 2% for installation. It asserts that separate engineering and installation factors were not identified in the FCC proceeding and that the input at issue was the HAI Model's switch installation multiplier, which covers both engineering and

²⁷² Tr. 2,548.

installation. Overall, AT&T contends that Verizon has not borne its burden of proof on the EF&I factor.

Verizon argues that the 8% to 12% estimate for telephone company installation and engineering cited by AT&T was calculated on the basis of rural telephone companies, which, unlike Verizon, do not incur the costs of dealing with multi-story central office buildings. It maintains as well that lower switch prices imply a higher EF&I factor (since the EF&I factor expresses the ratio of installation costs to material costs) and that rural telephone companies, which are unlikely to enjoy Verizon's vendor discounts and consequently pay more for their switches, could be expected to have a lower EF&I factor. Verizon adds that its own EF&I factor is based on actual data regarding material and installed costs for the relevant category of plant, and that AT&T, in response to an interrogatory, could provide no specification of its claim that increased capabilities of digital switches would reduce the amount of labor required to engineer and install them.²⁷³

In its reply brief, Verizon renews its argument that AT&T has misrepresented Sprint's position in the FCC proceeding and has failed to provide "any convincing explanation of why the Commission should rely on a mélange of data from dissimilar companies when it has available detailed data on Verizon's actual current EF&I costs and switching investments."²⁷⁴ AT&T, meanwhile, replies only that Verizon's effort to distinguish its own engineering and installation costs from those of rural telephone companies on the basis of its need to deal with multi-story central office buildings should be disregarded as extra-record as well as on the grounds that any such additional costs would be offset by Verizon's economies of scale and scope.

Verizon would prove too much with its disparaging reference to reliance on "a mélange of data from dissimilar companies" when its own actual data are available; its comment

²⁷³ Verizon's Initial Brief, pp. 257-258.

²⁷⁴ Verizon's Reply Brief, p 138.

suggests that we should simply set rates to recover Verizon's actual costs, whatever they may be. Verizon has certainly drawn distinctions between itself and the companies that generated the data cited by AT&T, but, as AT&T argues, the distinctions can cut both ways: installation costs may be higher in Manhattan than in rural areas, but Verizon is (or should be) more likely than rural companies to enjoy economies of scale. Meanwhile, despite its burden of proof, Verizon has shown no reason other than its own actual experience to adopt its much higher figure.

AT&T's 10% figure is not well supported and seems unduly low, but in view of the record and Verizon's burden of proof, a telephone company engineering and installation factor of 15% appears fair and reasonable, making for an overall EF&I factor of 30% rather than Verizon's proposed 43.5%.²⁷⁵

Switching Cost Allocation and Rate Design

1. Allocation to Usage-Sensitive and Non-Usage-Sensitive Switch Components

Verizon allocated switching material investment costs to three components: line ports, trunk ports, and usage. Several parties, primarily Z-Tel, asserted that Verizon incurs no usage-sensitive costs in providing unbundled local switching to itself or competitors and that switching costs therefore should be recovered on a non-usage-sensitive basis, through monthly recurring port charges.²⁷⁶

Z-Tel argues, on the basis of testimony by its witness Gillan, that the SCIS model is designed, among other things, to produce usage-based retail rates on the assumption that all switching costs not associated with a line or trunk port are

²⁷⁵ The 30% factor should be computed with reference to Verizon's claimed switching material costs. There is no basis for assuming that the lower material cost I am recommending will result in lower EF&I costs in absolute terms, so the EF&I percentage, computed with reference to the recommended material costs, will be higher than 30%.

²⁷⁶ AT&T offered testimony supporting a similar proposal but did not pursue it in its initial brief.

usage related. But, that assumption, it says, is inapplicable in the wholesale context, and its use would violate the FCC's requirement that costs be attributed on a cost-causative basis.²⁷⁷ Z-Tel explains that the switching network element "is the proportional purchase on a per-port basis of all the capacity in a switch, including all the features and functions of the switch. The price of each port should reflect the cost of the committed capacity. A number of carriers may share the switching facility in accordance with each carrier's ports. Therefore, the relevant increment of costing switching resources is the line port, not usage."²⁷⁸ Citing testimony by Verizon in the First Proceeding, Z-Tel disputes the premise that switches are installed before processors are exhausted, which would suggest that fixed common costs should be allocated on a usage-sensitive basis, and maintains that switches are installed not because of processor exhaust, but to add additional lines.

Z-Tel contends further that the costs of features and annual right-to-use (RTU) fees for software associated with vertical features should not be applied on a usage sensitive basis, characterizing Verizon's effort to do so as "outrageous" in view of its argument, in the Reciprocal Compensation Reexamination Proceeding, that vertical switching features should be excluded from the costs subject to reciprocal compensation. The Commission declined to adopt Verizon's proposal but referred the matter here,²⁷⁹ and Z-Tel urges rejection of any recovery of RTU fees through usage-sensitive charges. Z-Tel adds that the Commission has authority to impose flat-rate switching charges under the FCC rules²⁸⁰ and asserts that the Illinois Commerce Commission did just that. Finally,

²⁷⁷ Z-Tel's Initial Brief, pp. 6-7, citing Local Competition Order ¶691 and 47 C.F.R. §51.507(a).

²⁷⁸ Z-Tel's Initial Brief, pp. 7-8.

²⁷⁹ Case 99-C-0529, Reciprocal Compensation Reexamination, Opinion No. 99-10 (issued August 26, 1999), (Reciprocal Compensation Opinion) p. 56.

²⁸⁰ Citing 47 CFR §51.509(b).

Z-Tel argues that a usage-sensitive charge has greater potential to over- or underrecover switching investment than does a flat-rate, per-port charge.

WorldCom argues to similar effect, citing the testimony of Z-Tel's witness and the Illinois decision. Its conclusion, however, is somewhat more tentative: "To the extent the Commission believes that switching costs are more appropriately incurred not on a usage-sensitive basis but instead on a per-port basis, this Commission, [like the Illinois Commission], should consider adopting a flat-rated per-port switch cost."²⁸¹

Verizon, for its part, contends that the costs treated by SCIS as usage-sensitive include those directly driven by usage volumes as well as shared costs representing resources used in the processing of calls; it contends that the most equitable way to recover the latter is through usage rates applied to the customer making those calls. (AT&T responds that "equitable" as used here is a code word for an arbitrary allocation.²⁸²) It argues that Z-Tel's proposal would violate cost causation inasmuch as some switch functionalities are associated exclusively with usage, including the routing of calls through the switch fabric and the operation of the switch processor. While additional minutes of usage will not necessarily require the purchase of new processors or switch fabric, switches are designed with a particular level of usage in mind and may have to be augmented, even if the number of ports remains constant, if that level of usage is exceeded--a result consistent with, rather than contradicting the testimony of its witness in the First Proceeding that switches are configured to "handle all the minutes of use that the ports are forecasted to deliver in the normal peak period."²⁸³ Verizon disputes as well the premise that flat-rate charges are less

²⁸¹ WorldCom's Initial Brief, p. 73.

²⁸² AT&T's Reply Brief, p. 35.

²⁸³ Verizon's Reply Brief, p. 136.

likely to over- or underrecover costs, contending that accurate recovery of costs on a flat rate structure requires the unwarranted assumption that usage per line will remain stable.

Verizon's proposal would allocate, overall, 36% of switch investment to ports and 64% to usage,²⁸⁴ and Verizon argues, persuasively, that switching capacity requirements are not totally severed from usage demands, especially in the long run. But though Verizon's arguments preclude adoption of totally non-usage-sensitive rates, Z-Tel makes a strong case for recovering a greater portion of those costs on a non-usage-sensitive basis, in view of the purchase by a UNE user of all of the switching capacity, including features and functions, associated with a port.

To structure these rates it is necessary, first, to identify the portion of switch investment that is associated exclusively with usage and therefore sized to meet peak busy-hour demand. In the First Proceeding, Verizon witness Vanston presented an analysis of switching costs that would warrant allocating only 34% to usage (comprising processor/memory costs at 29% and switching fabric costs at 5%)²⁸⁵; and I see no reason, given Z-Tel's arguments, not to move to an allocation along those lines here. Recognizing that data may have changed since the presentation in the First Proceeding was prepared, I recommend a rate structure that assigns no more than 40% of switching costs to usage. In addition, all RTU costs should be recovered on a non-usage-sensitive basis, through the port charge, as Z-Tel proposes.

The switching costs assigned to usage are associated almost exclusively with peak busy-hour usage, but it would be

²⁸⁴ The allocations vary by switch manufacturer and by zone: the assignment to ports is 43% in Manhattan, 38% in the major cities zone, and 27% in the rest-of-state zone. (Tr. 4490; Exhibit 323, Workpaper Part B-2, section 4, page 1 of 3.)

²⁸⁵ First Elements Proceeding, Exhibit 184, (Exhibit Referred to in the Direct testimony of L.K. Vanston Ph.D.), Part F, page 108.

impracticable and unreasonable to try to recover them exclusively from the usage rate for that peak busy hour. The alternatives are to recover them over all usage, as Verizon proposes, or on a non-usage-sensitive basis, through port charges, as Z-Tel proposes. The record suggests that peak busy-hour usage is more closely correlated with total usage than with ports,²⁸⁶ suggesting that the costs at issue should be recovered over all usage. Accordingly, Verizon should present, in its brief on exceptions, a rate design that recovers the reduced level of usage-sensitive switching costs recommended here through usage rates.

2. Calculation of Usage-Sensitive Rate

Z-Tel argues as well that if the Commission does adopt usage-sensitive pricing, it should adjust Verizon's proposal by spreading switch investment over 365 calendar days, rather than Verizon's suggestion of 251 business days, and should reject time-of-day adjustments to switching usage. It contends that dividing switch investment by 251 business days rather than 365 calendar days overstates charges by about 22.7% and that the only justification Verizon offered for excluding that much traffic was that the data sample it collected did not include weekend and holiday usage. Z-Tel argues as well that there is no cost-causative basis for Verizon's proposed time-of-day adjustments, which it regards as "arbitrary allocations . . . lacking any economic or modeling validity."²⁸⁷ Verizon responds that the use of 251 business days is correct inasmuch as the switch must be designed to handle peak traffic, and peak traffic is realized only on business days. Taking account of weekend

²⁸⁶ That conclusion reflects a comparison between Verizon's actual measured traffic data (referred to at Tr. 2,529) and publicly available residential and business line count data (Exhibit 314-[RAM4]).

²⁸⁷ Z-Tel's Initial Brief, p. 12.

and holiday traffic volumes in computing the average would result in a figure too low to handle peak load traffic.²⁸⁸

Verizon's arguments are misdirected, for the issue here is not how to size the switch but how to spread the costs of a properly sized switch over its usage. Verizon's proposal would totally disregard weekend usage, which, though usually less than business day usage (and hence contributing less to peak load), should nonetheless bear a portion of these costs. To recognize both the reality of weekend traffic and its lower volume, I recommend WorldCom witness Ankum's proposal²⁸⁹ to spread these costs over 308 days a year, a figure derived by treating each weekend day as one-half of a day.

Verizon does not respond specifically to Z-Tel's criticism of its time-of-day adjustments.²⁹⁰ Parties may address those adjustments in their exceptions, in light of the other results recommended here on switching rate structure.

Port Additives

Verizon's initial brief defended, against criticisms in AT&T's testimony, Verizon's calculations of the costs of various optional switching features (port additives). AT&T contends, in its reply brief, that the passage in Verizon's initial brief "simply ignores the substantial record evidence that demonstrates that Verizon has not substantiated its claims for feature cost additives."²⁹¹ It asserts that properly adjusted port additive rates would be reduced by 89% and urges that they be set no higher than that adjusted level; it suggests they should be set at zero, since the administrative costs of collecting them might exceed the adjusted cost level.

²⁸⁸ Tr. 3,487-3,489.

²⁸⁹ Tr. 3,772-3,774.

²⁹⁰ Its reply brief (p. 137) cites Tr. 3,487-3,489 as its response to Z-Tel's challenges on both the business day assumption and the time-of-day adjustments. The passage, however, is directed primarily at the former.

²⁹¹ AT&T's Reply Brief, p. 34, citing Tr. 1,496-1,504.

AT&T's 89% adjustment represents the proportional reduction applied by AT&T to the switch digital line port UNE to correct for its view of the proper vendor discount and EF&I factor. It would apply that same ratio to port additive rates because the record lacks data on specific vendor discounts related to port additives. That approach seems reasonable, though the amount of the adjustment should of course be recalculated on the basis of my recommendations above with respect to vendor discounts and EF&I. It seems unlikely that the resulting rates would be too low to be worth the administrative costs of collecting them, but the parties may consider that on exceptions.

Refunds

As noted, the switching rates set in the First Proceeding have remained temporary, subject to refund or reparation. AT&T urges that the Commission, after setting new switching rates here, require Verizon "to refund all switching rates paid by CLECs in excess of Verizon's forward-looking economic costs for switching retroactive to April 1, 1997."²⁹² Verizon does not respond.

Whether to require refunds when temporary rates are reduced is a matter within the Commission's discretion. AT&T has offered no argument in support of its simple request for refunds, and Verizon has not addressed the issue in brief at all. The parties should consider the matter further on exceptions, taking account not only of whether refunds should be required but also of how they should be implemented if required.

²⁹² AT&T's Initial Brief, p. 80.

INTEROFFICE TRANSPORT

Interoffice transport facilities comprise large-capacity cables and associated electronic equipment used to carry calls between switches. Verizon states that they encompass dedicated transport, common or shared transport, dark fiber transport, and two-way trunking and that multiplexing is an additional component of interoffice transport. This section considers the issues that have been raised with regard to dedicated transport--which refers to a facility purchased and used entirely by one CLEC--and shared transport, involving facilities used by more than one carrier, each of which pays for its share on a usage basis.

Dedicated Transport

Verizon's dedicated transport cost study assume 100% deployment of what Verizon regards as forward-looking interoffice transport technology: synchronous optical network (SONET) transport rings with 100% fiber facilities. Several parties, primarily AT&T and the CLEC Alliance, offer challenges to Verizon's study.

1. Ports Per Node

Each SONET ring provides 48 DS3 connections. AT&T contends that Verizon has understated the number of ports that must be used at each SONET node to provide the 48 DS3s, thereby overstating its investment per DS3 and, in turn, the cost of dedicated interoffice transport. More specifically, AT&T calculates, on the basis of Verizon's assumptions, that each node must have on average approximately 26 ports. (The figure is based on the need for 96 ports to support 48 DS3s, since each DS3 enters the ring at one node and departs it at another. Verizon asserts there are 3.76 nodes per SONET ring,²⁹³ implying approximately 26 ports per node.) Verizon's study, however, assumes only 16 ports per node, thereby substantially overstating the investment per DS3.

²⁹³ Exh. 323, Workpaper part C1, §1.0, p. 8 of 85, line 372.

AT&T contends the error has a significant effect on costs because the bulk of the cost associated with SONET rings is the fixed cost of physically establishing the node. Beyond that, the overstatement of costs affects rates for dedicated transport at lower speeds (DS1 and DS0), which are based on the DS3 study.

In rebuttal, Verizon acknowledged the inconsistency, but it maintains that while its current network in fact has 3.76 nodes per SONET ring, its cost study network assumed six nodes per ring. AT&T contends, however, that Verizon has not analyzed the effect of its correction and has failed to bear its burden of proving AT&T's adjustment on its basis incorrect. The CLEC Alliance argues to similar effect, asserting more generally that Verizon's costs are so overstated that CLECs "could obtain access at considerably less cost by purchasing transport at retail from special access tariffs."²⁹⁴

On the latter observation, Verizon responds that transport purchased at retail would not be cheaper than the UNE if mileage as well as fixed charges were taken into account, as they must be.²⁹⁵ With respect to the specific adjustment at issue, Verizon contends that it properly resolved the inconsistency and that its forward-looking network design contemplated six nodes per ring, yielding the 16 DS3 terminations per node used in the cost calculation. The figure of 3.76 nodes per ring characterizes its existing network, which does not conform to the forward-looking design, but Verizon used that figure only to calculate fiber costs (thereby understating them) but not to calculate SONET costs.²⁹⁶

Verizon's explanation is satisfactory; no adjustment is needed.

²⁹⁴ CLEC Alliance's Initial Brief, p. 103 (emphasis in original; footnote omitted).

²⁹⁵ Verizon's Reply Brief, p. 139, n. 355.

²⁹⁶ Verizon's Initial Brief, p. 266, citing Tr. 3,496-3,497.

2. Optional Digital Cross Connect System

AT&T objects to Verizon's inclusion of a digital cross connect system (DCS) on most dedicated transport circuits regardless of whether the CLEC wishes to purchase it. It maintains the FCC has allowed CLECs to order dedicated transport and DCS separately and charges that Verizon improperly declines to address the issue when it contends that this case concerns costs, not its unbundling obligation. According to AT&T, "if DCS is to be available on an unbundled basis (and Verizon does not argue that it should not be), it needs to be costed and priced."²⁹⁷ In its brief, Verizon reiterates its contention that its unbundling obligation is not within the scope of this proceeding, and it points out that its studies do not purport to analyze the costs of an unbundled DCS product, which no CLEC has yet requested.²⁹⁸

Regardless of whether any CLEC has requested an unbundled DCS, the costs of such a product should be identified here, for the reasons AT&T states, unless Verizon can show a conclusive determination that it need not offer the product. If that issue remains open, and Verizon wishes to argue against any such offering, it remains free to do so in other fora.

3. Fill Factors

The CLEC Alliance contends that the 75% utilization factors assumed in Verizon's interoffice transport cost study are uniformly too low. It maintains that the fill factor for DS1-to-DS0 multiplexing should be 100%, inasmuch as the CLEC ordering such multiplexing purchases the entire capacity of the equipment regardless of the number of channels it actually uses. More generally, it maintains that even though the equipment installed to accommodate traffic growth may be utilized only at a 75% rate, the density and volume of the New York City telecommunications market suggests that existing facilities

²⁹⁷ AT&T's Initial Brief, p. 115.

²⁹⁸ Verizon's Initial Brief, pp. 268-269.

accommodating existing traffic are likely at full capacity, and that the overall fill factor therefore ought to exceed 75%. It contends as well that the instantaneously installed TELRIC network can be designed to take advantage of the modularity and varied sizes of SONET facilities in such a way as to insure most efficient utilization; that Verizon has failed to account for the sharing of fiber in the feeder with fiber in the interoffice transport network; and that fill factors should reflect not the rate of utilization at the time the facility is installed but, rather, the utilization of facilities over their entire economic life, taking into account increased demand over that period. The CLEC Alliance witnesses recommended fill factors of between 80% and 90% for dedicated transport.

Verizon's reply brief on this point refers the reader to its initial brief, which treats the issue not in the context of the CLEC Alliance's arguments but rather those of WorldCom witness Dr. Ankum.²⁹⁹ Verizon argues that Dr. Ankum's case for higher fill factors fails to recognize that network engineering is intended not to insure full capacity utilization but to meet customer service requirements at the lowest possible life cycle cost. To that end, Verizon asserts, SONET rings are never loaded beyond 50% of their line capacity, a criterion needed to insure continuous liability in the event of a line failure. It points in this regard to WorldCom's complaints over Verizon's asserted slowness in meeting unforecasted trunk capacity requirements. Nor does it see any basis for Dr. Ankum's specific fill factor recommendations, renewing its charge that he lacks pertinent experience and expertise.

Verizon properly refers to the need for adequate capacity to ensure a prompt response to orders. Still, the CLEC Alliance's arguments strongly imply a fill factor higher than Verizon proposes; once again, it is important to remember not only that Verizon bears the burden of proof but also that in a forward-looking analysis, its own experience provides the

²⁹⁹ Verizon's Initial Brief, pp. 267-268.

starting point but not the conclusion. I recommend a fill factor here of 80%.

4. Deaveraging

The CLEC Alliance urges that transport costs be deaveraged, asserting that the greater traffic volume in zones 1 and 2 will result in higher fill factors and the placement of more cables and larger terminals in locations with more traffic, thereby reducing transport costs. In addition, it contends, distances between nodes will differ among the geographic regions, and shorter SONET ring lengths will result in lower costs in the more densely populated areas.

Verizon, again responding in its initial brief to WorldCom witness Ankum's advocacy of deaveraging, sees no basis for doing so but contends that if a separate Manhattan rate were established, it would have to reflect not only the lower costs associated with shorter transport distances but the added costs associated with the high complexity circuit design characteristic of Manhattan.

Verizon properly notes the need to reflect upward as well as downward cost variation in any deaveraging effort. But it should include, in its brief on exceptions, an estimate of a deaveraged Manhattan dedicated interoffice transport rate, so a judgement can be reached on whether costs differ enough to warrant deaveraging.

Shared Transport

AT&T contends that shared transport costs are overstated insofar as they are based on the assertedly overstated costs of dedicated transport. Beyond that, it believes Verizon overstated the weighted average distance between its wire centers. Contending that it is not clear how Verizon developed its distance between wire centers, AT&T surmises--alleging a lack of clarity in Verizon's presentation--that Verizon relied on the estimated distance of 3.4 miles between one of its end offices and its tandem, but, it says,

most common transport traverses the much shorter distance between two end offices. It adds that Verizon responded in rebuttal only by saying "AT&T is not correct."³⁰⁰ AT&T says it lacks the information needed to calculate a weighted average distance, but notes experience in other jurisdictions suggests a reasonable weighted average distance is approximately 12 miles.³⁰¹

Verizon maintains that AT&T's favored method for developing the weighted average--minutes of use carried over each route--would be impractical because the specific routing of each minute of use is not recorded. That may well be so; but Verizon has not shown AT&T's concern to be invalid in principle, nor has it borne its burden of showing its own mileage estimate to be reasonable. In the apparent absence of a better-supported figure, I recommend use of AT&T's 12 miles.

³⁰⁰ AT&T's Initial Brief, p. 117, citing Tr. 3,498.

³⁰¹ Tr. 1,532.

DSL COMPATIBLE LOOPS AND LINE SHARING

Introduction

Digital subscriber line (DSL) technology entails the use of specialized electronics that permit the transmission over copper telephone lines (as distinct from more advanced optical fiber) of high-speed data signals while at the same time allowing the customer to make ordinary voice calls. The technology takes several forms, collectively referred to as xDSL; of particular pertinence here are asymmetric DSL (ADSL) and high-bit-rate DSL (HDSL).³⁰²

"Line sharing," meanwhile, refers to an arrangement under which a CLEC is able to provide DSL data service over a loop that is also used by the incumbent carrier to provide retail voice grade service. The voice traffic is transported in the low frequency (0 to 4kHz) range of the loop; the data traffic is transported in the higher frequency spectrum above 4kHz.

Some rates for DSL and line sharing offerings were considered in two earlier accelerated tracks of this proceeding. In Opinion No. 99-12 (issued December 17, 1999) (the DSL Opinion), the Commission set rates for the nonrecurring charges and one recurring charge that Verizon had proposed for DSL loops. The rates were set on a permanent basis, in the legal sense of not being subject to refund or reparation, but the Commission characterized them as "interim," inasmuch as they were expressly set for further examination here. Later, in Opinion 00-7 (issued May 26, 2000) (the Line Sharing Opinion), the Commission set rates for line sharing. Those rates were

³⁰² More specifically, ASDL uses a twisted-pair copper loop; the asymmetry refers to its ability to support a much higher transmission speed to the customer than from the customer. Its use thus permits rapid downloading by a customer of information from the internet or other databases. HDSL uses either a two-wire or a four-wire copper loop; transmission speeds (which are the same in both directions) are much higher when the four-wire version is used. Verizon's tariff includes rates for ADSL loops and for two-wire and four-wire HDSL.

made temporary, but "only with respect to quantitative matters that depend on the yet to be admitted [in Module 3] material. To the extent qualitative judgments regarding the applicability of various rate elements to line sharing [could] be made on the basis of the existing record their rate implications [were made] permanent." ³⁰³

Among the issues under this heading is the propriety of Verizon's having priced DSL loops and line sharing on the basis of an all-copper loop architecture. The CLECs attacked that concept on the premise that doing so was internally inconsistent with the basing of all other UNE costs on a forward-looking all-fiber feeder architecture and, relatedly, that it was an unlawful violation of TELRIC requirements. Verizon argued that the use of copper was correct, inasmuch as DSL was an inherently copper-based technology that would not be needed in an all-fiber environment. The Commission generally agreed with Verizon in the DSL Opinion and the Line Sharing Opinion, and Verizon insists that those decisions represent the "law of the case," warranting rejection of the renewed arguments to the contrary by Rhythms/Covad and the CLEC Alliance. ³⁰⁴

DSL Network Design Generally

Rhythms/Covad charge that Verizon, in effect, studied two separate networks--one including copper for nonrecurring charges imposed on DSL providers and one without copper, for all other purposes, including recurring charges for DSL loops. As a result, it failed to take account, in its overall loop study, of the demand for DSL service or of the need, imposed by TELRIC, to determine the "lowest cost network configuration for meeting the total demand for all the products, services, and functionalities under study." ³⁰⁵ Because of the demand for DSL loops,

³⁰³ Line Sharing Opinion, p. 17.

³⁰⁴ Verizon's Initial Brief, p. 169.

³⁰⁵ Rhythms/Covad's Initial Brief, p.7, citing Tr. 4,147 (emphasis in original).

Rhythms/Covad continues, the most efficient network configuration might be one that includes some copper feeder, and the efficient, forward-looking network might be a mix of all copper and copper/fiber loops. Verizon's failure to consider that possibility compromises its studies' compliance with TELRIC and warrants adoption of DSL loop rates established on the basis of the HAI Model, which contemplates the provision of voice and advanced services on an integrated basis.

Beyond that, Rhythms/Covad contend that Verizon's DSL study overstates the cost of its copper-based construct, for Verizon is installing no new copper, and the cost should be only that of maintaining the loops already in place. They argue as well that Verizon's method improperly requires a DSL provider to pay for fiber and DLC electronics even when the loop it purchases does not include them (as when the DLC electronics, normally found in an RT, are located in the central office and the DSL provider requires nothing more than access to the copper loop as it enters the central office).³⁰⁶

Verizon insists there is no inconsistency between the network construct used for DSL recurring and nonrecurring costs; rather, the difference is between the architecture used for voice grade loops (premised on all-fiber feeder) and that used for the nonrecurring charges for DSL-compatible and shared loops. It contends the Commission has recognized the propriety of that distinction in its earlier orders, inasmuch as voice grade loops on the one hand and DSL compatible and shared loops on the other are provisioned differently in a forward-looking environment. It goes on to cite references to copper in the FCC's definition of the line sharing element and in its discussion of DSL-compatible loops, noting, among other things, the FCC's statement that "xDSL cannot work over fiber, and it

³⁰⁶ Rhythms/Covad's Initial Brief, pp. 9-10.

generally requires a 'clean' (i.e., conditioned) copper loop."³⁰⁷ According to Verizon, the most efficient technology currently available for DSL transmission and for line sharing comprises copper cables. Verizon acknowledges that there are various ways of accessing a DSL compatible or shared copper loop facility, some of which may entail use of a fiber feeder, but it insists that "only the 'home-run', end-to-end-copper arrangement is at issue here."³⁰⁸ It adds that both provisioning arrangements being considered in the pending DSL collaborative (Case 00-C-0127) assume an all-copper loop, and Verizon therefore focused on the costs of that arrangement; the possible need to measure the costs of other arrangements that may be identified in no way impairs the forward-looking nature of the only two provisioning arrangements defined to date.

"The law of the case," as Verizon puts it, indeed contemplates copper-based DSL. The Commission fully explained that decision when it made it, and nothing presented here warrants a change, given the facts as they then existed. Those facts continue to be reflected in the provisioning arrangements considered in the Commission's DSL collaborative as of the time Verizon presented its studies, and its premise of copper-based DSL configurations was proper.

Technology, of course, continues to evolve and the configurations costed by Verizon cannot be assumed to be the last word. Alternatives to copper-based DSL are being examined in the DSL collaborative and at the FCC. They present, for most part, provisioning issues not properly before me; but I cannot ignore their implications for costing. The best way to deal with this fluidity is to revisit the matter a year from now (or

³⁰⁷ Verizon's Initial Brief, p. 171, citing Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, CC Docket No. 96-98, Third Report and Order and Fourth Notice of Proposed Rulemaking (rel. November 5, 1999) (UNE Remand Order) ¶204, n. 390. Loop conditioning is explained below.

³⁰⁸ Verizon's Initial Brief, p. 172.

sooner if developments in the DSL collaborative or the broader DSL market so warrant), at which time Verizon should be required to present cost studies on newly available DSL alternatives and should bear the burden of proving that it is offering DSL in the most cost-effective manner possible. For now, DSL rates should be set on the basis proposed by Verizon, adjusted to the extent discussed below; those rates should be permanent in the legal sense, subject to change only prospectively.

Loop Conditioning and
Qualification Charges

The charges examined under this heading arise because copper loops often are equipped with devices that preclude their use to support DSL. Some of these devices ("load coils") were installed to enhance the ability of longer loops (usually in excess of 18,000 feet) to transmit voice signals; others ("bridged taps") were added to increase the number of locations that a single loop could serve. All of them are incompatible, to varying extents, with use of the loop for DSL. Providing a loop capable of supporting DSL, accordingly, entails a process of determining whether the loop is equipped with any such devices ("loop qualification") and, if it is, removing them ("loop conditioning").

In confirming that incumbent LECs, regardless of whether they themselves offer DSL, were obligated to provide CLECs wanting to offer DSL access to conditioned loops, the FCC reaffirmed as well its earlier determination that CLECs would be obligated to compensate ILECs for the cost of loop conditioning; and it suggested that incumbents should be able charge for conditioning loops shorter than 18,000 feet even though networks built today would not include load coils on such loops. But, the FCC added,

We recognize . . . that the charges incumbent LECs impose for conditioned loops represent sunk costs to the competitive LEC and that these costs may constitute a barrier to offering xDSL services. We also recognize incumbent LECs may have an incentive to

inflate the charge for line conditioning by including additional common and overhead costs, as well as profits. We defer to the states to insure that the costs incumbents impose on competitors for line conditioning are in compliance with our pricing rules for nonrecurring costs.³⁰⁹

Issues are presented with respect to both the loop conditioning charge and the loop qualification charge. As nonrecurring charges, their specific levels are affected by the questions pertaining to nonrecurring charges generally, discussed separately below. This section considers qualitative issues related to recovery in principle of these costs.

1. Conditioning Charges

Verizon contends that the FCC has authorized recovery of loop conditioning costs on at least three occasions and, pointing to the passage previously cited, has authorized recovery of load coil removal costs even where placement of the coils would not be called for under current standards.³¹⁰

Rhythms/Covad charge that the proposed conditioning charges are anticompetitive and set so high that they exceed "by many multiples" the entire forward-looking cost of a new loop.³¹¹ They urge a conditioning charge of zero, arguing, first, that a forward-looking, TELRIC-compliant, all-fiber-feeder network would impose no need to condition loops and that recovery of loop conditioning costs, accordingly, is at odds with TELRIC. Moreover, applicable design standards for copper networks have obviated the installation of load coils and excess bridged tap for 20 or 30 years, and plant complying with those standards likewise should require no conditioning. Rhythms/Covad cite a decision by the Utah Commission disallowing conditioning costs as inconsistent with TELRIC, and they argue that while the FCC has recognized the right to recover the cost of providing

³⁰⁹ UNE Remand Order ¶¶193-194.

³¹⁰ Verizon's Initial Brief, p. 175, and cases cited there at n. 408.

³¹¹ Rhythms/Covad's Initial Brief, p. 10, citing Tr. 4,181-4,182.

conditioned loops, "it has consistently limited recovery to the efficient forward-looking cost of conditioning," as set forth in 47 CFR 51.507(e).³¹²

Again raising the issue of inconsistency between recurring and nonrecurring charges, Rhythms/Covad contend as well that Verizon is seeking to recover, through recurring charges based on a fiber network, the cost of a network from which load coils and excessive bridged tap have been eliminated, while also recovering, through nonrecurring conditioning charges, the cost of eliminating those devices. Citing decisions by the California, Massachusetts, and Illinois Commissions, they warn against the risk of allowing double recovery by using different network constructs for the calculation of recurring and nonrecurring charges. The CLEC Alliance argues to similar effect, citing, among other things, the Massachusetts Commission's finding that Verizon had misinterpreted the FCC's position and that the FCC's authorization of loop qualification and conditioning costs applies only to states that have assumed copper feeder for purposes of calculating TELRIC.³¹³

Verizon, meanwhile, contends that the CLECs unreasonably understand the FCC as having given with its left hand (the authorization of conditioning charges) what it then immediately took back with its right hand (by precluding such charges under TELRIC). It points out that current guidelines do not call for immediate elimination of bridged taps and load coils and are not violated by the network continuing to have that equipment. While the CLECs cite cases from other jurisdictions, it says, the precedent in New York call for allowing the costs, as do the FCC and other states not cited to

³¹² Rhythms/Covad's Initial Brief, p. 12. The FCC rule provides, in pertinent part, that "nonrecurring charges . . . shall not permit an incumbent LEC to recover more than the total forward-looking economic cost of providing the applicable element."

³¹³ CLEC Alliance's Initial Brief, p. 136.

by the CLECs. Verizon recognizes that some regulatory decisions do support the CLECs' position, but it urges the Commission to reject them.

In their reply brief, Rhythms/Covad again dispute the premise that DSL implies a copper construct, citing a recent FCC ruling that, in their view, eliminates any doubt that fiber loop facilities are included within the line sharing UNE.³¹⁴ They do not dispute Verizon's argument that current network standards do not require immediate removal of load coils and bridged tap, but contend simply that Verizon's competitors should not pay for that removal as it goes forward. The CLEC Alliance suggests that it would improperly discriminate between classes of customers using the same loop to set charges on the basis of the purpose--DSL or not--to which the loop is to be put.

Once again, I see no basis for recommending changes in the Commission's earlier determinations. The FCC seems clearly to have contemplated recovery of reasonable loop conditioning charges, including in situations where load coils would not have been installed under current design guidelines. The Massachusetts decision cited by Rhythms/Covad seeks to overcome the inconsistency alleged by the CLECs by inferring a limitation on the FCC's authorization of conditioning cost recovery, but it seems to me that any such limitation, if intended by the FCC, ought to have been stated more explicitly. Subject to the quantitative adjustments required by other aspects of this recommended decision and to possible prospective change in light of the reexamination of DSL provisioning technology discussed in the preceding section, I recommend allowance in concept of Verizon's loop conditioning charges.

³¹⁴ Rhythms/Covad's Reply Brief, p. 8, citing in the Matter of Deployment of Advanced Wireline Services Offering Advanced Telecommunications Capability, CC Docket No. 98-147, Third Report and Order on Reconsideration, (rel. January 19, 2001)(Line Sharing Reconsideration Order) ¶10.

2. Loop Qualification Charges

Loop qualification refers to the process by which it is determined whether a particular loop can be used for DSL transmission. The dispute revolves around the CLECs' access to information needed to make that determination.

Verizon's "mechanized loop qualification" service affords basic information on loop qualification by querying an electronic database. CLECs wishing additional information are offered "manual loop qualification" and "engineering query," which involve "checking other databases, performing automated MLT tests on loops, and checking paper outside plant records (known as 'cable plats')"³¹⁵ These additional services incur additional charges.

Rhythms/Covad and the CLEC Alliance maintain that Verizon's proposal fails to meet the FCC's requirement that CLECs be provided all loop qualification information that exists anywhere in the incumbent's system and that the price for such access be based on the use of efficient forward-looking technology.³¹⁶ Rhythms/Covad contend that mechanized loop qualification queries a database that was installed, for the most part, over 20 years ago to serve Verizon's own needs as a retailer and that lacks the information--which should have been installed under Verizon's own internal procedures as well as industry standards--that the CLECs need. According to Rhythms/Covad, manual loop qualification "masks the detailed loop makeup information that a CLEC needs to determine whether a loop will support [its] services, and again provides as a chief output an indication of whether the loop will support [Verizon's] affiliated data service."³¹⁷ To obtain further information, CLECs must use manual loop qualification and engineering query, both of them slow and expensive manual

³¹⁵ Verizon's Initial Brief, p. 180.

³¹⁶ Rhythms/Covad's Initial Brief, pp. 18-19, citing UNE Remand Order ¶430 and Local Competition Order ¶685.

³¹⁷ Rhythms/Covad's Initial Brief, p. 21.

processes. In Rhythms/Covad's view, Verizon would, in effect, require CLECs to cover the costs of correcting its own failure to develop a proper loop database, and a forward-looking, TELRIC-compliant cost study would assume, in contrast, a market in which Verizon's network took account of the needs of its CLEC customers. They therefore urge that Verizon "provide CLECs direct electronic access to the loop makeup information contained in [its databases]. To meet the requirement of pricing based on forward-looking, efficient technology, the charge for this access should be minimal."³¹⁸ Rhythms/Covad and the CLEC Alliance cite decisions in other jurisdictions holding that the proper rate for loop qualification information is zero inasmuch as a forward-looking network would impose no need to qualify loops for xDSL service.

Verizon contends that direct access to the existing databases will be of little benefit to the CLECs inasmuch as the databases lack much of the loop makeup information the CLECs need; and it disputes the premise that any information not in the databases should, in fact, be there. It explains that the databases are populated not all at once but only as loops are updated or replaced; to do otherwise would be inefficient. If such a database were prepared, its users--including the CLECs--should be responsible for its cost, something they decline to recognize: "By rooting a purportedly forward-looking analysis in historical arguments about what Verizon should have done in the past, CLECs are seeking to avoid any contribution to loop qualification or make-up costs."³¹⁹ In reply, Rhythms/Covad deny that they are demanding immediate implementation of a fully populated database; rather, they contend, the FCC entitles them to the same loop makeup information that is available to Verizon and the cost of access to that information must be forward-looking. In their view, moreover, compliance with Verizon's initial guidelines and industry standards would already have produced a fully populated database.

³¹⁸ Id., p. 23.

³¹⁹ Verizon's Initial Brief, p. 182 (emphasis in original).

Whether to allow CLECs direct access to the database is a provisioning issue not properly posed here; and I see, in any event, little basis for questioning Verizon's claim that affording such access would do little to reduce the costs incurred by the CLECs, given that the database lacks much of the information they would need. The question then becomes one of how to treat the loop qualification costs that result from the limited ability of the automated database to provide the needed information.

The issue resembles the one posed by Verizon's house and riser inventory records. Here, too, a database designed with competitors' needs in mind might well have contained much more of the needed information; a strict TELRIC construct therefore might assume the existence of such a database; yet adopting that construct incurs the risk of assuming a "fantasy" record keeping system. As in the case of house and riser records, accordingly, the better course in principle appears to be to allow these costs, subject, like loop conditioning costs, to generally applicable adjustments and prospective revision in light of new technological assumptions.

One additional factor should be recognized here, however. Rhythms/Covad witness Riolo credibly suggests that compliance with Verizon's own guidelines related to its databases would have resulted, over the past 20 years, in more of the pertinent information being included, given the frequency of plant additions and rearrangements.³²⁰ Verizon's response stresses the soundness of its historical procedures for developing its databases--and does so persuasively--but affords no assurances regarding the extent to which those procedures were in fact complied with. In view of that failure of proof, and to provide additional incentive to develop the database as a tool that meets the CLECs' needs as well as Verizon's own needs as a retailer, I recommend a downward adjustment of 25% in Verizon's loop qualification charges. (The adjustment should be

³²⁰ Tr. 4,245.

in addition to those flowing from other, general, recommendations regarding Verizon's cost study.)

3. Recurring vs. Nonrecurring Charges

Citing the FCC's observation that nonrecurring charges associated with loop conditioning could raise barriers to entry,³²¹ the CLEC Alliance urges use of recurring, rather than nonrecurring charges for the recovery of any conditioning and qualification costs that may be allowed. It contends that recurring charges would be consistent as well with the accounting methods ordinarily used by telecommunications carriers, inasmuch as conditioning expenses, which render a loop DSL-compatible indefinitely, should be seen as a capital expense no different from that associated with initial installation of the loop. It points to SBC's use of a recurring charge for recovery of conditioning costs.

Verizon, however, maintains that the costs are incurred on a nonrecurring basis and that a nonrecurring charge therefore better reflects cost causation principles; comports with standard accounting procedure, which treats these costs as expenses; ensures cost recovery; and associates the costs with the CLEC causing it rather than with hypothetical future users.

Verizon's interest in ensuring that its costs are recovered would not alone warrant use of nonrecurring charges if recurring charges were otherwise proper. But the other factors cited by Verizon--primarily cost causation and standard accounting principles--suggest the use of nonrecurring charges to recover these clearly nonrecurring expenses.

Line Sharing

As already explained, "line sharing" refers to an arrangement in which a CLEC is given access to the DSL transmission capability of a copper loop that is also used by Verizon to provide retail voice grade services. The voice

³²¹ UNE Remand Order, ¶194, quoted above.

traffic is transported in the lower frequency range and the data traffic in the higher frequency range; the voice and data traffic are routed to their respective switches through the use of devices referred to as splitters. Two scenarios for the provisioning of line sharing have been developed in the ongoing DSL collaborative and are considered in Verizon's cost studies. In scenario A, the splitter is located in the CLEC's collocation space in Verizon's central office; in Scenario C, it is mounted on a relay rack located in Verizon's central office space.

In the Line Sharing Opinion, the Commission resolved a variety of issues related to line sharing costs. Some of those determinations spawned additional issues to be considered here.

1. Wide Band Testing Service Rate

In the line sharing track of the proceeding, Verizon proposed to recover the cost of the metallic test access unit (MTAU) and associated equipment and support for wide band testing (WTS), arguing that the addition of electronic devices to the loop and the advent of line sharing meant that the previously adequate metallic line test (MLT) would no longer suffice. It maintained that the additional costs associated with WTS would be offset by the savings associated with a reduced number of field dispatches to diagnose problems. CLECs objected to the charge, arguing that they were entitled under FCC regulations³²² to deploy their own testing systems and that TELRIC precluded allowing Verizon to charge CLECs for functions that the CLECs would perform for themselves. The Commission determined that CLECs wishing to deploy their own testing systems should not be required to pay for Verizon's testing service, and it accordingly made the charge optional. It noted, however, that CLECs would be required to bear the cost of additional service dispatches that might be necessitated by Verizon's not performing WTS on the loops in question.³²³

³²² 47 CFR §51.319(h)(7).

³²³ Line Sharing Opinion, pp. 25-27; Line Sharing Rehearing Order, p. 4.

In the present module of the proceeding, Verizon acknowledges (at least at the briefing stage) that the charge will be optional.³²⁴ Issues are posed, however, regarding the level of the charge to be imposed on CLECs electing the service.

Equipment Refund. Rhythms/Covad contend, first, that Verizon will be receiving a refund related to testing equipment and that CLECs should benefit from the refund to the same extent as Verizon.³²⁵

Verizon notes that the refund relates to the vendor's failure to integrate the WTS into DSLAM equipment that Verizon was then planning to use for its retail service, and it argues that even if such an arrangement were optimally efficient for a retail service, that would not be the case in a wholesale environment in which each DSL provider could choose its own splitter and DSLAM equipment. It insists that DSLAM/WTS integration is possible only for retail testing and is irrelevant to the present issue.³²⁶ Rhythms/Covad do not respond.

Although Rhythm/Covad attempt to attribute at least a part of the WTS costs Verizon seeks to recover to the transactions that gave rise to the refund, Verizon has shown those transactions to relate solely to retail operations. I see no basis for recommending sharing of the refund.

Demand for WTS. In view of the Commission's determination to make WTS optional, Verizon reduced the forecast demand for the service, thereby increasing the unit cost; it assumed that no unaffiliated CLEC would purchase the service inasmuch as most have claimed it was unnecessary. Rhythms/Covad

³²⁴ Verizon's Initial Brief, p. 187. Rhythms/Covad note Verizon's suggestion in testimony (Tr. 3,203) that the issue be revisited and objects to doing so; but Verizon does not pursue that request, which, in any event, would not be warranted.

³²⁵ Rhythms/Covad's Initial Brief, pp. 26-27. The details of the refund and its background comprise proprietary information relating to transactions between Verizon and its equipment vendors.

³²⁶ Verizon Initial Brief, pp. 192-193.

contend this means that if any CLEC actually does purchase the service, Verizon will overrecover and the CLEC will be significantly overcharged. Pointing out that Verizon has developed demand forecasts for other optional rate elements, they charge that Verizon has declined to address the demand issue here in a credible manner; they urge, therefore, that the Commission assume the level of demand originally proposed by Verizon. Verizon responds that retention of the original demand level would cause it to underrecover its costs and that the rate should be modified on a prospective basis as additional demand data become available.

Some adjustment for lower demand seems needed, but Verizon has shown no basis for its premise of zero. Still, what Rhythms/Covad see as the lack of seriousness in that premise does not provide a basis for disregarding the legitimate qualitative argument underlying it. It is impossible to forecast with any degree of confidence whether actual demand will be closer to zero or to Verizon's initial premise, and I recommend, as the most reasonable course of action in these circumstances, setting the unit rate on the basis of a demand midway between those parameters. The rate should be subject to prospective modification in one year on the basis of actual demand data.

Fill Factor. Rhythms/Covad contend that Verizon computed the 60% fill factor for Metallic Test Access Units (MTAUs) on the basis of a demand estimate lower than that used to compute unit costs, thereby understating it. It urges recalculation of the fill factor in a consistent manner. Verizon defends the 60% factor as conservative, inasmuch as the differing capacities of a DSLAM (576 lines) and a metallic testing unit (500 lines) depress MTAU utilization.

Although objecting on those grounds to Rhythms/Covad's proposal, Verizon nonetheless recognizes "that higher demand levels will drive this maximum utilization up."³²⁷ It should,

³²⁷ Verizon's Reply Brief, p. 108.

accordingly, recalculate the fill factor on the basis of the higher demand here recommended.

Land and Building Double Count. In the Line Sharing Opinion, the Commission reduced the WTS rate to avoid a double count of land and building costs. It reasoned that all land and building costs were already recovered through the network element rates set in the First Proceeding and that extending the L&B factor to a new item before it was adjusted in Module 3 would permit overrecovery. Rhythms/Covad maintain that Verizon failed to adjust the L&B factor in a manner that took account of all network elements--in particular, line sharing was excluded from the recalculation--and that the Commission's determination therefore continued to require exclusion of the factor from WTS rates. Verizon contends, however, that the Commission misunderstood the purpose of the L&B factor, which does not seek to recover an identified level of current or historical cost but to use historical ratios to estimate the forward-looking land and building costs associated with a given level of investment. Incremental investments have incremental costs associated with them.

Rhythms/Covad counter that it is Verizon that misunderstands the Commission's mandate, and that Verizon has never tried to demonstrate that the L&B costs associated with WTS are additional costs in the manner it suggests. Under Verizon's logic, applying the factor to any investment would identify additional forward-looking costs. They assert that "the Commission truly had the stronger logic on this point when it recognized that the L&B factor must be calculated using the universe of investment and then applied to determine forward-looking L&B costs for that universe."³²⁸ They add that the L&B factor is flawed in its reliance on historical investment-to-investment ratios, which may result in the allocation of greater land and building costs to WTS than would be incurred on a forward-looking basis that takes account of more compact equipment.

³²⁸ Rhythms/Covad's Initial Brief, p. 31.

Verizon responds that the validity of applying a factor to a particular equipment item does not depend on whether the item was included in the development of the factor but only on whether the factor was appropriately calculated for the class of equipment to which the item belongs. It insists there is no double recovery, inasmuch as the previous application of the factor to non WTS equipment makes no allowance for the land and building requirements associated with the WTS equipment. It adds that the attack on the use of historical data in developing the factor has already been rejected by the Commission.

Verizon argues, in essence, that the double counting of land and building costs is impossible a priori. It sees the issue not as one of fact--whether the costs proposed to be recovered already have been recovered elsewhere--but as one of definition; in its view, the L&B factor is not a mechanism for recovering a measurable body of costs, but a ratio defining the costs to be associated with each increment of equipment, however many.

The Commission, however, has made it clear that the issue is one of fact. In the Line Sharing Opinion, it clearly contemplated a measurable body of costs to be spread over the proper number of elements: "All land and building costs are already recovered in the network element rates set in the First Network Elements Proceeding, and to extend the factor to a new item before it is adjusted in Module 3 would permit overrecovery of the costs."³²⁹ Soon after, in its opinion in the collocation module of the proceeding, the Commission again held that it is necessary to consider the amount of land and building costs to be recovered, not merely the amount of investment to which the factor is to be applied:

To the extent collocation-related land and building costs are incremental to those recovered through the Phase 1 CCF--
[Verizon's] premise--there indeed would be

³²⁹ Line Sharing Opinion, pp. 27-28 (footnote omitted).

no double count. But the incremental land and building costs associated with collocation...have not been shown to be anything but minimal, accounting for less than 1% of incremental land and building investment since 1994, and that result is consistent with the premise that collocation arrangements, in large part, are housed by making additional use of existing space. On that basis it can be concluded that nearly 100% of currently recognizable land and building costs already are recovered through existing UNE rates, and that extension of the land and building CCF to collocation, without commensurately adjusting the factor in a way that will not be done until Module 3 is decided, would over-recover those costs.³³⁰

The issue thus comes down to whether the L&B factor has been recomputed in a manner that satisfies the precondition set in the Line Sharing Opinion for its application to WTS. Inasmuch as all UNE rates are now being set simultaneously, it appears that the L&B loading is being consistently spread over all units to which it should apply, and the precondition therefore has been met.

2. Recovery of Line Sharing OSS Costs

In the Line Sharing Opinion, the Commission adopted Verizon's proposal to set as yet unknown operation support system (OSS) costs related to line sharing at zero, subject to true-up once the costs could be better estimated. Verizon initially proposed continuation of that arrangement. In its supplemental testimony, however, it identified a portion of the relevant OSS costs, equal to 22¢ per line per month, and it asks that recovery of that cost be approved now but that the rate remain temporary to permit further adjustment.

³³⁰ Opinion No. 00-8 (issued June 1, 2000)(Collocation Opinion), pp. 10-11 (footnotes omitted).

Rhythms/Covad object, citing the FCC's stated concern that OSS development was seldom driven by unbundling considerations alone and that incumbent LECs should not be permitted to attribute an unreasonable portion of their OSS development costs to line sharing unbundling.³³¹ They maintain that Verizon has failed to meet its evidentiary burden of distinguishing the portion of the costs incurred to benefit CLECs from that incurred to benefit Verizon's own operations and add that partial recovery of the costs now will complicate their analysis. Verizon responds that it has submitted detailed information on the rationale for the rate at issue, including the purpose, justification, and cost of the OSS enhancements involved.³³²

I recommend adoption of Verizon's proposal. Its testimony fully describes the costs it proposes to recover, and they appear unrelated to any of its retail activities. As it suggests, the rate element should remain temporary, to permit further adjustment; but it should be clear that any such adjustment could be not only upward, to reflect reasonable additional costs, but also downward, to capture any newly adduced savings.

3. Splitter Administration and Support Charges

Verizon proposed a "splitter maintenance" charge, said to recover actual splitter maintenance costs along with wholesale marketing support costs related to line sharing. In the Line Sharing Opinion, the Commission held that the charge could not be applied to line sharing scenario A, inasmuch as the

³³¹ Rhythms/Covad's Initial Brief, p. 33, citing Deployment of Wire Line Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Third Report and Order in CC Docket No. 98-147 and Fourth Report and Order in CC Docket 96-98 (released December 9, 1999)(Line Sharing Order) ¶106.

³³² Verizon's Reply Brief, p. 109, citing Tr. 3,208-3,212.

splitter would be located in the CLEC's collocation space and Verizon would incur no maintenance costs. Verizon sought rehearing and proposed a reduced charge for scenario A, which excluded the actual splitter maintenance costs, leaving only the other costs sought to be recovered through the imprecisely named charge. The Commission denied the petition, holding that there might indeed be no reason to distinguish scenario A from scenario C with respect to the non-maintenance costs recovered through the reduced charge, but that it was less clear whether that meant that the costs should be recovered in scenario A or, instead, removed from the scenario C charge. It allowed Verizon to submit supplemental testimony on the issue.³³³

Verizon's supplemental testimony proposes two charges. For scenario A, the charge would be limited to those recovered through the wholesale marketing ACF and those recovered through the other Support ACF. For scenario C, it would include those costs along with maintenance costs recovered through the network ACF. Verizon contends that each item represents a cost properly incurred with line sharing.

Rhythms/Covad object to imposition of even the reduced charge on scenario A CLECs, contending that Verizon has failed to provide the required "detailed explanation of how the costs involved are associated with CLEC splitters and of the extent to which those costs go unrecovered through other charges."³³⁴ They argue, first, that Verizon has shifted some 46% of its original network ACF (the application of which to scenario A was rejected) to the other support ACF, thereby attempting to recover under a different name charges already disallowed. They maintain further that their own equipment suppliers perform product management, advertising, and customer interfacing functions with respect to the splitters and that Verizon is not involved in those processes. Nevertheless, Verizon's proposed

³³³ Line Sharing Opinion, pp. 33-34; Line Sharing Rehearing Order, pp. 4-7.

³³⁴ Line Sharing Rehearing Order, p. 7.

charge would have the CLECs bear those costs as well as costs (in the wholesale marketing ACF) of Verizon's retail advertising in competition with CLECs and litigation expenses that can hardly be deemed marketing costs.

Rhythms/Covad allege further that the charge violates Verizon's own costing method, which is to apply ACFs to its own revenue producing investments; in the case of a splitter, there is no Verizon investment and no Verizon revenue, and the amount of the charge is based on a hypothetical estimate of the costs that Verizon would have incurred had it purchased a splitter. They warn of double recovery, inasmuch as Verizon recovers the costs at issue by applying the wholesale marketing ACF and the support ACF to the collocation space and other investments attributable to line sharing. With respect to the actual maintenance charges that would be imposed in scenario C, Rhythms/Covad contend that splitters are passive devices requiring little if any maintenance and that Verizon has not borne its burden of showing the contrary. Finally, they complain that the charge is anticompetitive, noting that the scenario A charge is \$37.32 per month for the very first line sharing customer signed up, compared with Verizon's affiliate's retail line sharing service charge of \$39.95.

Verizon responds that the components shifted from the network ACF to the support ACF relate not to maintenance costs as such but to support-related costs incurred even when the splitter is located in the CLEC's cage.³³⁵ It denies any double recovery, explaining that application of the ACFs to collocation space, tie cables, and terminal block investments simply recover the costs associated with those items but not with the splitter. It contends there is no reason to relieve CLECs of the costs they impose on Verizon simply because they incur costs of their own; that the record shows that there are indeed maintenance costs associated with splitters³³⁶; that Verizon incurs wholesale

³³⁵ Tr. 3,641-3,642.

³³⁶ Tr. 3,250-3,251.

marketing and wholesale product management costs in providing the services that CLECs require and that these services are required for line sharing to at least the same extent as for other UNEs; and that these costs are not recovered through other UNE rates. It reiterates its view that ACFs are intended not to recover a particular incurred level of expense but to identify a relationship between investment level and anticipated expense level and that once the ACF ratio is computed, it should be applied to all forward-looking investment. On that premise, it says, it is reasonable to determine the charge at issue by applying the ACF to splitter investment even if Verizon does not own the splitter--"splitter investment is being used by Verizon not as a cost to be recovered in its own right, but as a base for the estimation of line sharing related [administration and support] cost."³³⁷

In their reply brief, Rhythms/Covad insist Verizon has shown no basis for recovering historical advertising costs incurred in a retail context, and they reiterate their claim that Verizon's wholesale marketing organization spends considerable resources in opposing competitors in regulatory litigation such as this proceeding, which would not exist in a forward-looking competitive wholesale environment. The costs of such litigation, they say, should not be imposed on the very competitors against whom it is directed.

Many of the arguments on this issue echo more generic concerns about ACFs and, in particular, about whether Verizon has adequately removed costs associated with its own retail activities that are not incurred to benefit--and, indeed, may be incurred to compete against--Verizon's wholesale customers. Those arguments are addressed by the recommended adjustments to ACFs generally, which should be applied here as well.

The question unique to splitters is whether ACFs should be applied to an item of hardware in which Verizon itself has no investment. Verizon maintains the CLEC's splitter

³³⁷ Verizon's Initial Brief p. 202.

investment is simply a surrogate base to which the ACF can be applied, and that it is proper to do so because line sharing entails real costs that should not go unrecovered simply because the principal piece of hardware associated with the service is not owned by Verizon. The CLECs insist that doing so is fundamentally at odds with the theory underlying the construction of ACFs.

It seems to me that the CLECs have the better of this argument. What is at stake is not consistency for its own sake--i.e., the claim that ACFs are applied to Verizon's investment and therefore should not be applied to CLECs' investment--but the possibility that the ACFs would have been calculated differently had the historical investment base included investment other than Verizon's own. In that event, the denominator of the ACF ratio would have been greater and the ACF correspondingly lower. But applying the existing ACFs to investment not owned by Verizon entails a clear risk of overrecovery.

This is not to say that Verizon incurs no costs in connection with line sharing of the sort recovered through the ACFs at issue. Its testimony shows that the costs (once those related to retail activities are properly removed) are real, though care must be taken to eliminate as well all costs related to relationships with equipment vendors. But despite its burden of proof, it has not proposed a reasonable way to identify and recover those costs; and recovery therefore should be disallowed.

Finally, with specific reference to the maintenance costs proposed to be recovered from Scenario C CLECs, Rhythms/Covad have not shown splitter maintenance costs to be de minimis. If Verizon can devise and present on exceptions a better cost estimation and recovery mechanism, those costs should be allowed.

4. Line Sharing SAC Charges

Verizon's collocation service access connection (SAC) charge recovers the cost of providing the physical connection between a CLEC's collocated equipment and Verizon's network, through a connection point in a point of termination (POT) bay. For line sharing scenario A, Verizon proposed to apply two SAC charges, one for each of the connections from the POT bay to its main distribution frame. In scenario C, it initially proposed three charges--one between the POT bay and the splitter's data port and two between the splitter and the frame--but it agreed to apply only two charges, treating the POT-bay-to-splitter-to-frame series of connections as covered by a single SAC charge. In the Line Sharing Order, the Commission noted CLEC arguments that the charges were overstated, in that typical collocation arrangements involve longer cable runs than those required by line sharing, and it held that Verizon's proposed rates might be adjusted here not only on the basis of Module 3 results overall but also on the basis of average cable lengths used in the line sharing connections between Verizon and its DSL affiliate (then BANDI, now VAD).³³⁸

In support of its proposal to apply two SAC charges, Verizon submitted an analysis of 11 wire centers in which splitters had been provisioned for CLECs and for which cable length data for both VAD and collocators were readily available. It claims the survey to have shown that the average total length of cable needed for a line sharing arrangement was more than double the average cable length associated with a conventional collocation arrangement, and that the relationship applied to both unaffiliated CLECs and VAD.

Rhythms/Covad dispute the significance of the survey, charging that it shows only that Verizon had implemented line sharing in a manner that requires excessive cabling. They see no showing that the installations reflected efficient network design. They note as well that in Phase 3 of the First Proceeding, the Commission rejected Verizon's 258-foot estimate

³³⁸ Line Sharing Order, pp. 36-37.

of the cabling required by a conventional collocation arrangement and instead used a figure of 165 feet, derived from the AT&T/WorldCom collocation cost model that the Commission there determined should be used as a starting point for analysis. They charge on this basis that Verizon's survey results are unreasonable on their face and urge that Verizon be required to price line sharing on the basis of a more efficient arrangement, using shorter cabling. They suggest the SAC charge for line sharing should be equal to a single SAC connection reflecting a cabling distance of 165 feet, the same as the Commission adopted for standard collocation.

Verizon observes that the Commission may have adopted the 165-foot figure for purposes of setting the collocation SAC charge, but that the figure is irrelevant to the comparison of actual line sharing cable length (556 feet) with actual conventional collocation (258 feet).

Verizon has established that line sharing requires enough cabling to warrant the imposition of two SAC charges, but it has shown no basis for modifying the Phase 3 determination that the SAC charge should be premised on 165 feet of cable. The charge here should be computed accordingly--two SAC charges, each set on the basis of 165 feet of cable.

5. Cooperative Testing

Cooperative testing refers to a joint effort by a Verizon technician and a CLEC technician to ensure, on the installation of a line sharing arrangement, that it is properly installed and working. Verizon proposed a charge of \$37.15 per loop for cooperative testing, which it contends recovers the legitimate costs associated with the effort.

Rhythms/Covad contend that the charge (and the underlying activity) are attributable to Verizon's inability to deliver a loop properly and that CLECs should not be required to pay for work and then to pay for testing to make sure that the work was actually performed; they contend "that is silly and

certainly results in double recovery for [Verizon]."³³⁹ Asserting that CLECs incur and bear their own costs in connection with cooperative testing and that Verizon's proposed rate requires them to bear Verizon's costs as well, they note that the Massachusetts Commission has adopted a rate of zero for cooperative testing. At a minimum, they suggest, the Commission should require Verizon to waive the charge wherever it is Verizon's fault that a loop fails to work and to bear the burden of identifying those instances in which it may be entitled to recover the charge.

Verizon contends that no party has challenged the level of the charge and that the costs, like others, are necessarily and efficiently incurred in the course of carrying out its obligation to provide access to UNEs. It characterizes cooperative testing as simply another quality assurance procedure and sees no difference between these costs and all others.

In contrast to a stand-alone DSL installation, which involves the installation and testing of a new line, line sharing involves use of a line already known to be carrying dial tone. That tends to negate at least one possible source of trouble that may be attributable to Verizon. In these circumstances, it seems reasonable to allow imposition of the cooperative testing charge; to provide for its waiver if the trouble is attributable to Verizon; but to require the CLEC to bear the burden of showing a waiver to be warranted.

NONRECURRING CHARGES

Introduction

Nonrecurring costs (NRCs; the abbreviation refers as well to the nonrecurring charges intended to recover those costs) have been defined by Verizon as "one time costs that are incurred in responding to a carrier's request for the initiation, change, or disconnection of service."³⁴⁰ To state the

³³⁹ Rhythms/Covad's Initial Brief, p. 24.

³⁴⁰ Verizon's Initial Brief, p. 288.

matter most generally, the costs are determined by estimating the work times needed to perform the required activities and multiplying them by the appropriate labor rates. NRCs have been a nettlesome issue since Phase 2 of the First Proceeding and continue to be controversial here; the issues are both complex and important, inasmuch as CLECs regard NRCs as upfront impediments to market entry.

In Phase 2 of the First Proceeding, the Commission found that Verizon had failed to meet its burden of proof with regard to NRCs and that the record could have justified rejecting its NRC presentation in toto. Doing so, however, would have been tantamount to finding that the costs at issue were zero, clearly an incorrect conclusion, and the Commission therefore set reasonable placeholder NRCs at a level approximately 57% below Verizon's proposals.³⁴¹ Verizon's failures of proof related to both the forward-looking nature of its study and its method for estimating work times.

In Phase 3, Verizon proposed additional NRCs. The Commission found that Verizon's estimating methods had been improved in some respects, and it approved several of the new NRCs. It rejected others, as to which the new estimating method had not been applied. It also strengthened the procedure used to ensure that NRCs did not double recover costs already recovered through carrying charge factors.

In the present proceeding, Verizon claims to have presented studies designed to satisfy the earlier criticisms. Most of the studies were based on the nonrecurring cost model (NRCM); of the nine studies that did not rely on the NRCM, none are specifically controverted.³⁴² As a final introductory matter,

³⁴¹ The basis for the 57% adjustment is set forth in the Phase 2 Opinion, pp. 53-54; in general, the adjustment represented the average effect of applying, in each work function for which Verizon had conducted a task oriented costing (TOC) analysis, the minimum rather than the mean TOC data point.

³⁴² Verizon's Initial Brief, p. 289, n. 689, listing the nine non-NRCM studies.

NRCs related to DSL matters pose separate issues and are discussed below under a separate heading.

Summary of Verizon's Study

Verizon summarizes the operation of its NRCM as follows:

In order to calculate NRCs, the NRCM used detailed lists of work activities that were developed through careful analysis of work flow in all work groups that are involved in responding to CLEC requests for UNEs. The work flow analyses were developed by Verizon's Service Costs personnel, working closely with personnel from the groups actually involved in performing this work on a day-to-day basis. This effort ensured that the studies provided a comprehensive list of the individual work steps that could be involved in responding to particular types of CLEC requests. The NRCM uses time estimates for the individual work activities that were based upon either surveys or special studies, to arrive at the costs of particular activities. The NCRM allows these time estimates to be adjusted to reflect estimates of the frequency with which particular activities will be performed in both the current and in the future environment. Thus, the NRCM permits identification of forward-looking NRCs.³⁴³

Verizon said it first determined work times using today's methods of operations and then adjusted those results to reflect the effects of planned mechanization efforts. It therefore contends that the study is forward-looking, resulting in NRCs that often are substantially less than current costs. Verizon explains further, however, that some activities will continue to require manual, rather than mechanized, work effort and that its studies allow for that.

With two exceptions (studies of the telecom industry services operating system [TISOC] and mechanized loop assignment center [MLAC]), Verizon developed the work times in its NRCM studies by surveying personnel involved in the studied activities. It describes the process by which it developed

³⁴³ Verizon's Initial Brief, pp. 289-290.

survey questionnaires on the work activities identified as pertinent and its effort to obtain as many survey responses as possible from throughout the former Bell Atlantic region.³⁴⁴ The survey results were then reviewed for reasonableness by a panel of 18 experts familiar with the processes involved. The panel of experts also adjusted the survey results to reflect forward-looking OSS and other mechanization efforts. In addition, Verizon engaged NERA to "investigate the precision of the study"³⁴⁵; NERA calculated a 95% confidence interval.

For TISOC activities, Verizon used a time-and-motion study developed by Anderson Consulting on the basis of actual observations of the processing of over 800 service orders in the Boston and New York TISOCs. The results were adjusted downward to reflect the forward-looking effects of OSS electronic interfaces. Time estimates for MLAC activities were based on a monthly productivity report, which was used to develop the average time taken by an assignment clerk to resolve cable and pair assignment per line for those assignments that cannot flow through the mechanized loop facility assignment center system (MLFACS). Only 4% of MLAC cost per assignment is reflected in the cost studies, however, on the premise that 96% of orders would flow through on a mechanized basis.

AT&T and the CLEC Alliance challenge various aspects of Verizon's NRC studies. General issues related to TELRIC compliance are considered first, followed by specific concerns regarding study method and components.

Compliance with TELRIC and Network Model

1. Arguments

AT&T sees as the "most glaring flaw" in the NRC study its grounding in Verizon's existing embedded network rather than in the forward-looking network modeled for recurring rates.³⁴⁶

³⁴⁴ Id., pp. 292-293 and record citations therein.

³⁴⁵ Tr. 2,684.

³⁴⁶ AT&T's Initial Brief, p. 178.

AT&T contends that Verizon justifies that approach on reasoning pressed and rejected in Phase 2 of the First Proceeding, citing Verizon's testimony that the starting point for its NRC study was its existing and known network,³⁴⁷ and it asserts that Verizon's forward-looking adjustments merely pay lip service to TELRIC requirements. It cites the Commission's statement, in the Phase 2 Opinion, that Verizon "insists it has carried that burden [of showing that its claimed costs reflect a least-cost forward-looking system] by showing how its existing processes will be changed by foreseeable mechanization; but it thereby assumes, instead of proving, that the result of that process will be the desired, least-cost forward-looking system."³⁴⁸ Contending that the Commission has since reaffirmed that rationale, AT&T maintains that it requires rejection of the present study in its entirety as well.

The CLEC Alliance argues to similar effect, characterizing Verizon's forward-looking adjustments to its backward-looking study as "a chimera that cannot possibly salvage the fundamentally flawed assumptions underlying the model," and arguing that to produce TELRIC compliant NRCs, Verizon would have to totally abandon its study and develop a new one using the same forward-looking network construct as is used in studying recurring costs.³⁴⁹ Among other things, the CLEC Alliance notes that while the recurring costs study assumed 100% fiber feeder with electronics in both the field and the central office, the NRCs for CLEC customers assume manual cross-connections at the main distribution frame.

In response, Verizon contends that the network assumed for purposes of NRC studies differs from the current network in its reflection of the full impact of all planned mechanization efforts and that the resulting costs are below Verizon's current costs. It maintains further that the studies incorporated a

³⁴⁷ Tr. 3,539.

³⁴⁸ Phase 2 Opinion, p. 47.

³⁴⁹ CLEC Alliance's Initial Brief, p. 121.

forward-looking system, potential cost reductions from which were captured by the use of the panel of experts familiar with Verizon's network modernization plans. It notes that the Commission has recognized that in conducting a TELRIC study, it is reasonable to start the analysis with a firm understanding of current conditions.³⁵⁰ In reply, AT&T stresses that Verizon has simply adjusted its baseline assumptions to reflect its own planned upgrades to its current network and that this is a different matter from using the forward-looking network design contemplated by Verizon's recurring cost calculations.

In a related, more specific criticism, AT&T and the CLEC Alliance contend that the network construct assumed for purposes of the NRC study is different from the forward-looking network used in the recurring cost study. The forward-looking network contemplates electronic cross-connections in digital form and does not include a main distribution frame requiring costly analog connections. The NRC study, however, entails just such manual analog connections rather than the more efficient electronic cross-connections that would be made in a truly forward-looking network. In its reply testimony, AT&T offers a demonstration of how such a forward-looking network would be configured. In AT&T's view, "no amount of tinkering, or 'adjustments' by Verizon can overcome this fundamental violation of TELRIC."³⁵¹

Verizon contends that its cost studies properly reflect the continuation into the TELRIC future of a variety of different technologies and that it is necessary to recognize the coexistence with IDLC-based architecture of UDLC-based architecture incorporating copper. The NRCs associated with the latter will require manual, copper interconnections, imposing higher costs; and a failure to allow for their recovery "would deny Verizon its right to recover the costs that it will incur in the future, a result prohibited by the 1996 Act, the Local

³⁵⁰ Verizon's Initial Brief, p. 304.

³⁵¹ AT&T's Initial Brief, p. 185.

Competition Order and the Public Service Law."³⁵² AT&T responds that Verizon fails to explain why recurring and nonrecurring future costs should be based on different architectures, contending that if ULDC technology is consistent with TELRIC concepts, its recurring cost model should reflect that; if it is not consistent, it should not be used as a basis for recovering nonrecurring costs. AT&T charges that Verizon is attempting to assume the network construct that increases recurring costs along with the different network construct that increases nonrecurring costs.³⁵³ It cites the Commission's observation that TELRIC does not require allowance of actual costs based on the existing network infrastructure, and therefore sees no reason to allow nonrecurring charges associated with existing UDLC technology.

2. Discussion

Although I cannot locate, either in my Phase 3 recommended decision or the Commission's ensuing opinions, any reference in so many words to the "great" strength of Verizon's Phase 3 studies,³⁵⁴ I did find in Phase 3 that Verizon had "made a credible effort to produce a forward-looking study of its nonrecurring costs, consistent with the demands of the Phase 2 Opinion."³⁵⁵ The Commission accepted my recommendation, and the only NRCs that were disallowed in Phase 3 were those whose computational methods remained inadequate.

The situation here is substantially the same; if anything, Verizon's efforts to study its NRCs on a forward-looking basis represent a further improvement beyond Phase 3. As noted earlier, the fact that the studies use existing systems and costs as a starting point does not in itself vitiate their forward-looking nature, and the key is whether adequate steps

³⁵² Verizon's Initial Brief, p. 301.

³⁵³ AT&T's Reply Brief, p. 98.

³⁵⁴ Verizon's Initial Brief, p. 291, citing Tr. 2,663.

³⁵⁵ Phase 3 Recommended Decision, pp. 49-50.

have been taken to adjust that starting point to reflect reasonable forward-looking assumptions. Verizon's evidence details those steps, and they appear generally sufficient.

One point of concern, however, is the continued reflection of UDLC technology, which is as troublesome in the NRC context as it was in the establishment of recurring loop rates. The procedure I recommend for recurring charges should be extended to NRCs as well; they may be set for now in a manner that reflects continued use of UDLC, but they should be reduced in a year to a level consistent with IDLC alone unless Verizon can show that step to be unreasonable.

Survey Method

AT&T contends that Verizon's work time estimates are substantially overstated, citing, in its brief, a 7.49 minute interval applied to each order for the "two-wire new initial" item and noting that there may be ten orders in a work package, meaning that the time allocated to waiting for printouts would be 74.9 minutes even though a list of ten jobs is generated in less than ten minutes. It cites other instances of alleged inconsistencies in work times, including a situation in which it appears to take less time to place a four-wire cross-connect than to place a two-wire cross-connect.³⁵⁶

The CLEC Alliance challenges Verizon's survey and statistical sampling techniques, citing Verizon's witness panel's concession that NERA's calculation of a 95% confidence interval simply meant that the survey responses were similar to each other and shed no light on whether they accurately captured forward-looking costs.³⁵⁷ It points as well to the Commission's decision in the DSL track of this proceeding to reject similar surveys and reduce NRCs by 70% because of Verizon's failure to insure the absence of bias in the surveys. Noting, among other

³⁵⁶ AT&T's Initial Brief, pp. 187-188.

³⁵⁷ CLEC Alliance's Initial Brief, pp. 123-124, citing Tr. 5,401, 5,405.

things, that the survey recipients knew that the results would be used by Verizon in litigation, it alleges opportunity for bias sufficient to taint the entire study. Beyond that, the sample was taken from throughout the Bell Atlantic region, and Verizon failed to show that it was representative of New York operations.

In response, Verizon defends its survey method, noting the absence of actual evidence of bias; the routine use of surveys as a means of determining costs; the omission of respondents' names from survey forms, precluding reward or punishment; and the review of survey results by a panel of experts. In response to AT&T, it notes, among other things, that a two-wire connection may indeed take more time than a four-wire connection given the more frequent use there of tie cables wired across distant central office locations.³⁵⁸ AT&T responds that knowing how Verizon reached inconsistent numbers does not explain the differences between them.

Again as in Phase 3, Verizon has largely cured the deficiencies of its Phase 2 NRC studies. It has documented its process, compiled extensive data, and refuted the allegations of bias. While the NERA analysis of its results does not, of course, confirm their accuracy, it does assuage any concerns about the statistical validity of the study. On the basis of this record, it appears to me that Verizon has presented a reasonable study of its NRC work times.

Other NRC Issues

1. OSS Efficiency

AT&T and the CLEC Alliance charge that Verizon's study assumes backward-looking rather than forward-looking and efficient exchange of information between companies in the service ordering process. They contend, first, that Verizon assumes too high a level of manual intervention, in contrast to the less costly "flow through" of orders on an automated basis.

³⁵⁸ Verizon's Initial Brief, p. 307, citing Tr. 3,563.

AT&T asserts, for example, that Verizon has reflected in its study substantial manual labor costs for its TIOSC work group, sometimes as much as 160 minutes of manual labor per order, when the actual task would be performed by the OSS itself or only minimal manual labor would be needed to return to the CLEC an order that cannot be processed. AT&T contends that Verizon returns erroneous service orders electronically in the retail environment, and that similarly efficient processes should be available in the wholesale context.

AT&T and the CLEC Alliance also contend that the "fallout" rate--that is, the percentage of orders that cannot be processed electronically--contemplated by the study is excessive. As a threshold matter, AT&T asserts that Verizon's projected fallout rates are not clearly stated and must be calculated from other data; AT&T calculated a fallout rate of 25% for a two-wire loop.³⁵⁹ It argues that these high fallout rates are responsible for the frequency with which certain work activities are required, and it contends that in a properly designed system, the OSS should detect the error and automatically return the order to the originator, leaving a low fallout rate not in excess of 2%. The CLEC Alliance notes that the 2% figure has been adopted in Connecticut and Massachusetts. Finally, AT&T contends that Verizon compounds the problem by assuming not only excessive levels of fallout, but also a need for significant manual labor in multiple departments to process the anticipated fallout.

Verizon responds that this study reflects the effect of planned future mechanization efforts and that it does not merely assume levels of manual intervention but estimates them on the basis of expert opinion that AT&T has not called into question. It sees no basis for the 2% across-the-board fallout rate advocated by AT&T and the CLEC Alliance, contending that fallout rates will vary by activity, though for most UNEs, its studies reflect a 4% rate.

³⁵⁹ AT&T's Initial Brief, p. 192.

In its reply brief, AT&T advocates adoption of the 2% fallout rate which, it says, the Massachusetts Commission adopted on the basis of a record similar to the one here.³⁶⁰

While Verizon contends its fallout rate is extremely optimistic, the record does not show it to have borne its burden of proving that to be the case. Fallout rates can be expected to decline as experience is gained with more efficient OSS, and it is important that rates here be set on the premise of minimal fallout. Overall, I recommend the 2% level advocated by AT&T.

2. Alleged Inclusion of Recurring Costs

AT&T contends that Verizon has included the cost of recurring activities in its nonrecurring charges, thereby recovering those costs a second time. It asserts that in provisioning a CLEC's request, Verizon may have to perform activities that benefit its network, and the costs of such activities should be classified as recurring and recovered through recurring rates. As an example, AT&T cites field installation activities that are needed for construction of outside plant and should not be recovered through NRCs, inasmuch as they will benefit not only the first customer placing the order but future customers on subsequent orders as well. Moreover, AT&T continues, some one-time costs--such as those of capital assets--should not be seen as nonrecurring costs.

Verizon responds that it addressed the situations raised by AT&T in its rebuttal testimony. It insists that the costs are in fact nonrecurring and that they are incurred as a direct result of a request by a CLEC for service.³⁶¹

Verizon's response is persuasive; no adjustment is needed on this account.

³⁶⁰ AT&T's Reply Brief, pp. 103-105.

³⁶¹ Verizon's Initial Brief, pp. 302-303.

3. Inclusion of Disconnection Costs

The CLEC Alliance objects to the inclusion in some connection-related NRCs of the costs of future disconnection. It contends Verizon should recover disconnection costs only if and when the actual disconnection occurs, citing decisions to that effect in various other jurisdictions. It adds that disconnection costs are normally quite low, given OSS efficiencies, and that charging the CLEC at the outset puts it at a cost disadvantage relative to the incumbent.

Verizon contends that up-front recovery of the disconnection costs is consistent with the practice in New York and elsewhere for retail and wholesale rates alike and recognizes the realities that it is difficult to recover costs once service is disconnected. Since recovery of these costs in initial rates is standard practice, it says, the CLEC can include the cost in its own initial rate to its customers without suffering a competitive disadvantage. Verizon sees no reason why it should bear the risk that these costs would not be paid when disconnection takes place.

Recovery of disconnection costs in the manner proposed by Verizon appears to be standard practice, and no persuasive reason has been presented for changing it. I recommend that Verizon's proposed treatment of the costs be approved.

4. Expedited Processing

Verizon calculated separate NRCs for standard interval installation and expedited interval installation; the costs for expedited service reflect the need to pay premium wage rates for work outside normal work shifts. The CLEC Coalition contends that the labor costs for expedited provisioning contemplate excessive non-productive overtime hours and urges that the costs for expedited service provisioning be determined on the premise that all overtime is productive.³⁶²

³⁶² CLEC Coalition's Initial Brief, p. 37.

Verizon contends that non-producing overtime--the term it favors over non-productive overtime, inasmuch as it refers not to wasted time but to time spent in necessary activities, such as travel and training, that do not provide an additional unit of service--amounted to less than 1% of total overtime hours.³⁶³

Whether the time at issue is characterized as non-producing or non-productive, the amount appears to be de minimis. No adjustment is needed.

NRCs for DSL Service

Issues related to the recoverability in principle of Verizon's proposed DSL costs have already been considered. This section considers more specific issues related to the computation of the loop conditioning charge.³⁶⁴

Rhythms/Covad contend that Verizon's study overstates work times by asking respondents to estimate the time it takes to perform the activity in question rather than the time it ought to take. It characterizes the survey results as "far out of bounds" in the view of other experts in the field and contends, in some instances, that the numerical range of the responses was "ridiculously broad."³⁶⁵ They disparage Verizon's effort to validate its study results by comparing them to the average cost of 23 purported conditioning jobs related to ISDN service, contending that cross-examination showed, among other things, that some of the jobs were not conditioning jobs at all, that some included costly items of equipment, and that some included multiple conditioning operations.³⁶⁶ Rhythms/Covad attribute much of Verizon's alleged overstatement of costs to

³⁶³ Verizon's Initial Brief, p. 289, n. 688.

³⁶⁴ No computational issues specifically related to loop qualification are presented.

³⁶⁵ Rhythms/Covad's Initial Brief, p. 16, citing Tr. 4,047-4,053; Tr. 4,175-4,176.

³⁶⁶ Tr. 5,503-5,505.

the assumption that conditioning work must proceed one loop at a time instead of through a more efficient process of deloading multiple loops. They urge the Commission, if it allows conditioning charges to be imposed at all, to use the conservative time estimates proposed by witness Donovan.³⁶⁷

The CLEC Alliance likewise asserts that in some instances up to 50 pairs could be conditioned at once. That Verizon rarely receives a request to condition more than one loop at a time does not mean that it should not do so; and Verizon has submitted no evidence in support of its claim that it may be unfeasible to condition more than one loop at a time or that doing so would be tantamount to random removal of load coils that could result in degraded service. The CLEC Alliance cites decisions in other jurisdictions that rejected the one-loop-per-trip assumption.³⁶⁸ Like Rhythms/Covad, the CLEC Alliance urges that if conditioning costs are allowed, they be based on the recommendations of witnesses Donovan and Riolo.

In response, Verizon asserts that Messrs. Riolo and Donovan had only limited experience in loop conditioning, and it contrasts that experience to the day-to-day involvement of the experts who participated in its survey. It maintains that even if its analysis of ISDN conditioning jobs were adjusted in a manner consistent with the issues raised on cross-examination, it would still confirm the conservative nature of its loop conditioning studies. As for conditioning multiple loops, it maintains that decisions in other jurisdictions are irrelevant and that it has shown that multiple conditioning, given the characteristics of Verizon's network, would pose service problems and significantly increase costs.³⁶⁹

In their reply brief, Rhythms/Covad note that Verizon declined to cross-examine the witnesses who questioned the

³⁶⁷ Tr. 4,048-4,053.

³⁶⁸ CLEC Alliance's Initial Brief, p. 139.

³⁶⁹ Verizon's Initial Brief, p. 313, citing Tr. 2,796; p. 318, citing Tr. 3,098-3,099, 3,586.

reasonableness of its study, point to what they characterize as outrageously exaggerated work times--for example, 7.31 minutes for monitoring a phone line to determine whether it is in use--and note the widely varying figures for work times associated with some tasks. They maintain that Verizon simply cites the wide variety of circumstances encountered by its employees on a day-to-day basis and contend that "if competitors were forced to afford [Verizon's] technicians time to deal with every eventuality under the sun, the loop conditioning process would never end and, to [Verizon's] delight, the associated charges would quickly put competitors out of business as they paid over and over for [Verizon's] 'worst case' assumptions."³⁷⁰ They therefore urge reliance on Mr. Donovan's time estimates, which they consider to be more reasonable.

The record on this issue leads inexorably neither to approval of Verizon's numbers nor to any specific alternative. Witnesses Riolo and Donovan are less expert, perhaps, than Verizon's engineers, but they are by no means totally lacking in pertinent expertise. Verizon may have successfully rebutted some of their specific criticisms of its study, but their overall analysis seriously calls Verizon's results into question. Their critique may fail to take account of all the varied situations Verizon must deal with on the ground; but it is far from clear that CLECs should bear all the associated costs. Deloading loops in batches of 25 or 50 may risk degrading service or increasing costs in the manner warned of by Verizon; but deloading only one loop at a time does not appear absolutely essential to system integrity or cost minimization, and might itself jeopardize system integrity by requiring more frequent opening of enclosures.³⁷¹

³⁷⁰ Rhythms/Covad's Reply Brief, p. 12.

³⁷¹ Without intending to belittle concerns about service quality, I cannot help but note that such warnings have a long history of overstatement, going all the way back to pre-divestiture AT&T's objections to competitive customer premises equipment.

To state the matter differently, Verizon has not borne its burden of proof with respect to its proposed charges, but it has shown ample qualitative reason why the charges should not be reduced to a level consistent with the worktimes advanced by Rhythms/Covad. To reflect the state of the record before me, I conclude that Verizon recompute its worktimes on the premise that loops are deloaded on average in batches of ten, thereby capturing some of the efficiencies that may be available through multiple deloadings while recognizing the difficulty of extending that premise too far. Loop conditioning charges should be set on that basis.³⁷²

RECIPROCAL COMPENSATION ISSUES

"Reciprocal compensation" refers to an arrangement between two local exchange carriers in which each compensates the other for the transport and termination on the second carrier's network facilities of calls originating on the first carrier's facilities. Under the 1996 Act (and earlier decisions by the Commission), reciprocal compensation consists of mutual reimbursement of termination costs; the rates are set on a TELRIC basis, with reference to the incumbent's costs.

Verizon presented in this proceeding reciprocal compensation rates (which it called "derived rates") based on its calculated costs for transport and switching. It describes the rates as those it charges for accepting traffic from a CLEC and delivering it to a Verizon end user.³⁷³ The two principal

³⁷² These recomputations should be set forth in Verizon's brief on exceptions. I should note as well that the record makes it difficult to compare Verizon's worktimes with Rhythms/Covad's; see, for example, the table at Tr. 5,627, where Rhythms/Covad cites what it characterizes as Verizon's worktimes to a Verizon exhibit in which it is not readily apparent how the figures appear. Parties addressing the issue on exceptions should present, to the extent possible, the parties' conflicting positions in comparable terms.

³⁷³ Further background on reciprocal compensation and its legal context is set forth in the Reciprocal Compensation Opinion, pp. 1-10.

derived rates are termed "Meet Point A," which compensates Verizon for traffic delivered to an end user through an end office switch, and "Meet Point B," which compensates Verizon for delivering tandem-routed traffic. The Meet Point A rate is equal to the sum of the rates for switch usage and a common trunk port; the higher Meet Point B rate is equal to the sum of the rates for a tandem trunk port, end office to tandem common trunking and associated trunk port costs, tandem switch usage, and end office switch usage.

AT&T raised a number of issues regarding the calculation of derived rates. In addition, Verizon again presented its geographically relevant interconnection point (GRIP) proposal, which the Commission rejected in the Reciprocal Compensation Reexamination proceeding, subject to further consideration here.

Derived Rates Generally

1. Use of Feature-Free Switch Usage Rate

AT&T objects to calculation of derived rates (Meet Point A, Meet Point B, and the Unbundled Telephone Company Reciprocal Compensation Charge (UNRCC, based on the same formula used to calculate the Meet Point A rate) on the basis of a switching rate that excludes the costs of vertical features and is accordingly lower than the average switch usage rate. It contends that Verizon is interested in lowering reciprocal compensation rates because it is a net payer of reciprocal compensation and that there is no reason to treat switch costs differently in a UNE context and in a reciprocal compensation context. It would base reciprocal compensation on the unaltered average local switching rate.

Verizon cites the Commission's determination, in the Reciprocal Compensation Opinion, that removal of vertical feature costs from reciprocal compensation rates "makes considerable sense in the abstract."³⁷⁴ It contends that

³⁷⁴ Verizon's Initial Brief, p. 272, citing Reciprocal Compensation Opinion, pp. 58-59 [sic; should be 55-56].

providing feature functionality is not part of transport and termination service, for which reciprocal compensation is paid, and that including feature costs in reciprocal compensation rates is therefore inappropriate.

The Commission determined in the Reciprocal Compensation Reexamination Proceeding that vertical costs should be excluded in principle from reciprocal compensation but declined to do so there because they had not been calculated. That calculation now having been done, there appears to be no reason not to exclude them.

2. UCRCC

The unbundled CLEC reciprocal compensation charge (UCRCC) is intended to compensate Verizon in situations where it receives certain types of calls from the CLEC for hand off to a second CLEC and must make reciprocal compensation payments to that second CLEC. Verizon calculated the charge on the basis of average actual payments in the period September 1999 through December 1999.

AT&T challenges the use of the 1999 data to develop forward-looking costs, noting that the rate at issue had dropped from September to December and that decisions made in this case with regard to switching costs can be expected to reduce reciprocal compensation rates even further. It regards as inadequate Verizon's proposal to recalculate the UCRCC on a quarterly basis and urges that the rate be set on the basis of the meet point A rate.

In response, Verizon cites once again the Commission's determination that forward-looking cost estimates may be based on historical costs. It reiterates its offer to recalculate the element prospectively on a quarterly basis, given the difficulty of knowing the direction in which reciprocal interconnection charges will move, and it disputes the premise that intercarrier compensation charges are necessarily based on Meet Point A rates, noting that negotiated agreements often require payment of Meet Point B or blended rates.

While forward-looking costs can be based on adjusted historical data, it seems unreasonable to do so on the basis of so small a sample and one that itself suggests a declining trend. Verizon should recalculate the rate in its brief on exceptions, on the basis of a longer period terminating at a point closer to the present.

GRIPs

Some customers, primarily internet service providers (ISPs) ask their local exchange carriers to assign them "virtual local numbers," that is, numbers associated with each of the local calling areas in which their users might be located regardless of whether the ISP itself or the carrier serving it has facilities in those areas. The ISPs do so to make it convenient and cheap for their customers to place calls with long holding times. In the Reciprocal Compensation Reexamination Proceeding, Verizon contended (as it again contends now) that these arrangements, though not unlawful, can result in the carrier serving the ISP (usually a CLEC) passing on to another carrier (usually the originating ILEC) the cost of transporting the virtual local call from the ISP's customer's local calling area to the area in which the ISP is physically located. For example, Verizon says, if a call is originated on Verizon's network and directed to an ISP served by a CLEC, and the CLEC declines to provide Verizon a point of interconnection (POI) within the originating local calling area, Verizon must carry the call (and install the facilities needed to do so) to the local area in which the CLEC has a POI "even though it receives only local usage rates from the originating end user and nothing at all from either the CLEC or the ISP. (Indeed, far from being compensated by the CLEC for transporting its call, Verizon is actually required to pay the CLEC intercarrier compensation for the privilege of transporting its interexchange call for free, and is being prevented by the CLEC's numbering practices from being compensated by its end user through toll charges)." ³⁷⁵

To remedy what it regards as the unfairness of the situation, Verizon proposes that each LEC be required to establish, upon the request of any interconnected LEC, a geographically relevant interconnection point in every rate center in which it assigns telephone numbers, unless the parties

³⁷⁵ Verizon's Initial Brief, p. 276 (emphasis in the original).

agree otherwise. The requirement could be fulfilled by establishing an actual, physical interconnection point or by purchasing dedicated UNE transport, at Commission approved rates, which would obviate the deployment of allegedly uneconomic new transport facilities.

In the Reciprocal Compensation Reexamination Proceeding, the Commission determined that Verizon had made "a good case for the fairness of its proposal, which is designed to spare it the cost of, in effect, subsidizing a CLEC's use of virtual NXX's." It rejected as well the CLECs' argument that its hands were tied by federal law allowing CLECs considerable discretion with regard to selecting points of interconnection and requiring originating carriers to bear the cost of hauling traffic to them. Nevertheless, it saw no need to adopt the GRIP proposal, finding that "any additional benefits to [Verizon] would be relatively minor, and the unintended effects on access to the Internet from remote areas could be substantial."³⁷⁶

In again presenting the proposal, Verizon disputes the premise that its benefits would be relatively minor; it provides calculations showing, on the basis of 1999 data, that its non-compensated transport costs exceed \$2 million annually.³⁷⁷ Verizon likewise sees no need for concern over effects on internet access, noting that CLECs would remain free to assign telephone numbers that could be reached on a local usage rate basis; that they would not be required to install facilities; and that alternatives such as virtual GRIPs could be negotiated.³⁷⁸

³⁷⁶ Reciprocal Compensation Opinion, p. 59.

³⁷⁷ Verizon's Initial Brief, pp. 278-279.

³⁷⁸ A virtual GRIP entails the establishment of a collocated interconnection point by a CLEC at a Verizon tandem switch or at host end offices, obviating the concern that the interconnection point would have to be located within the rate center in which the CLEC assigns telephone numbers. Verizon's Initial Brief, p. 280, n. 666.

AT&T, the CLEC Alliance, WorldCom, and Cablevision Lightpath criticize the GRIP proposal on various legal and policy grounds. Citing the FCC's observation that the 1996 Act allows competing carriers "to deliver traffic terminating on an incumbent LEC's network at any technically feasible point on that network, rather than obligating such carriers to transport traffic to less convenient or efficient interconnection points,"³⁷⁹ AT&T contends that the GRIP proposal would impose just such an anticompetitive requirement on CLECs, requiring them to deploy statewide networks to achieve multiple interconnections. It charges that the proposal would transfer to the CLECs transport costs both for originating and terminating local calls, thereby taking "the 'reciprocal' out of reciprocal compensation,"³⁸⁰ and it cites the Massachusetts Commission's rejection of a similar proposal. AT&T regards the virtual GRIP proposal as, in effect, a willingness on Verizon's part to negotiate alternative interconnection point arrangements with CLECs, and it argues that the better way to deal with the problem is through negotiation, without the GRIP proposal being treated as the default arrangement.

The CLEC Alliance argues to similar effect, adding that if the GRIP proposal is approved, the Commission should require Verizon to compensate CLECs for the additional transport that would be required, "because in this context [Verizon] is the customer and the CLEC is the wholesale provider of call termination functionality."³⁸¹ It argues as well that many CLECs have already designed their networks in reliance on existing arrangements that do not require GRIPs and that approval of the proposal would harm CLECs by requiring them to reconfigure their networks and to incur additional costs and delays. It urges rejection as well of the virtual GRIP proposal, disputing Verizon's claim that it is competitively neutral and alleging

³⁷⁹ Local Competition Order, ¶209.

³⁸⁰ AT&T's Initial Brief, p. 134.

³⁸¹ CLEC Alliance's Initial Brief, p. 115.

that it assumes, incorrectly, that CLECs have the same ubiquitous presence that Verizon has.

WorldCom observes that Verizon's proposal would vitiate a CLEC's bargaining power over interconnection points by enabling Verizon to refuse the carrier's choice of interconnection point in favor of the default GRIP option. It urges the Commission to endorse real negotiations as the best way to decide interconnection points.

Lightpath, devoting its entire brief to this issue, contends the GRIP proposal would undermine the Commission's efforts to enhance competition as well as violate federal law. Lightpath describes itself as a full-service, facilities-based CLEC whose ability to serve its customers depends critically on efficient interconnection with Verizon's network. Pointing to its negotiated interconnection arrangements with Verizon, it contends that the GRIP proposal would undermine such arrangements and enhance Verizon's bargaining strength in future negotiations. It charges that the proposal violates the FCC rule barring a LEC from assessing charges to deliver traffic to another carrier and, even under the virtual GRIP variation, unlawfully reserves to the LEC the ability to decide where and how often a CLEC must interconnect. It cites, in this regard, the FCC's statement in its Texas §271 proceeding that "a competitive LEC has the option to interconnect at only one technically feasible point in each LATA."³⁸²

Beyond the legal issue, Lightpath contends the proposal contravenes sound public policy by hindering the development of alternative, more efficient networks, shifting the cost of transport to CLECs, and impairing the CLECs' ability to negotiate equitable interconnection arrangements. While Verizon regards the cost shifting as appropriate, Lightpath contends it is at odds with New York's procompetitive policies and cites as

³⁸² Application by SBC Communications, Inc., et al. pursuant to §271 of the Telecommunications Act of 1996 to Provide In-Region InterLATA in Texas, CC Docket No. 00-65, Memorandum Opinion and Order (rel. June 30, 2000) ¶78.

well the Massachusetts Commission's rejection of GRIPs on that basis. It sees no reason for the Commission to alter its previous conclusion that GRIPs are unnecessary in view of the remedy adopted in the Reciprocal Compensation Reexamination Proceeding for imbalances created by convergent traffic. Finally, it contends that the record on GRIPs and virtual GRIPs is ambiguous, raising a variety of issues regarding just what Verizon is proposing.³⁸³

In response, Verizon defends the lawfulness of its proposal, contending that it is not attempting to avoid its obligation to provide interconnection at any technically feasible point but only to deal with who will bear the costs for delivering a local call from its point of origin to the interconnection point selected by the CLEC. It cites the FCC's statement that a CLEC wishing "a 'technically feasible' but expensive interconnection would, pursuant to [the 1996 Act], be required to bear the cost of that interconnection, including a reasonable profit."³⁸⁴ It points as well to the statement in Local Competition Order ¶209, omitted by the CLECs in citing it, that "because competing carriers must usually compensate incumbent LECs for the additional costs incurred by providing interconnection, competitors have an incentive to make economically efficient decisions about where to interconnect." With respect to policy, Verizon contends CLECs should bear the costs they impose in offering their customers the benefits of wide area local calling and that the 1996 Act does not require the incumbent to subsidize those benefits. It reiterates its claim that GRIPs would not require construction of facilities and denies that establishing a generic rule that would prevail in the absence of an agreement would have an effect on negotiated agreements. It cites at length a decision of the

³⁸³ Lightpath identifies the issues at its Initial Brief, p. 12.

³⁸⁴ Verizon's Reply Brief, p. 140, citing Local Competition Order, ¶199.

South Carolina Commission rejecting AT&T's argument against GRIPs.³⁸⁵

Lightpath's reply brief reiterates its legal and policy arguments, adding that ¶199 of the Local Competition Order does not undermine the rule that each carrier is responsible for delivering its own traffic to the other carrier's network. It argues as well that the costs transferred to CLECs would be passed on to their customers, including ISPs that would, in turn, pass the costs on to their users, thereby bearing out the Commission's concern about the effect of GRIPs on internet access in remote areas. Lightpath adds that Verizon's study purporting to show that its uncompensated transport costs exceed \$2 million per year is both extra-record and flawed. The CLEC Alliance disputes the premise that the physical location of the CLEC customer receiving the call affects Verizon's transport obligations, contending that Verizon's transport cost is determined solely by the distance from the originating point (i.e., Verizon's customer) to the interconnection point and that any legitimate transport costs incurred by Verizon from originating traffic to CLEC designated interconnection points are already recovered through the price of UNEs and from Verizon's own retail customers. It adds that the CLEC industry has shown a willingness to work cooperatively with incumbent LECs in resolving these issues. It suggests that the proposal benefits Verizon primarily through its anticompetitive features.

The concerns that Verizon cites in support of GRIPs cannot be dismissed, and the proposal continues to enjoy a prima facie appearance of fairness. But the objections raised by the CLECs--including the relative impacts of the proposal on Verizon and its competitors, as well as the potential effect, noted by the Commission, on ISP access in remote areas--are likewise significant; and points of interconnection, when all is said and done, are among the matters to be thrashed out between the parties to interconnection agreements. Verizon acknowledges as

³⁸⁵ Verizon's Reply Brief, pp. 143-145.

much but nonetheless suggests that GRIPs should be adopted as the default arrangement to be applied in the absence of some other agreement between the parties. But the adoption of any such default arrangement would skew the negotiations, significantly strengthening Verizon's hand, and Verizon's suggestion to the contrary³⁸⁶ appears unrealistic.

It appears to me that the better alternative is for the Commission to reaffirm its recognition of Verizon's concerns and its willingness to have them taken into account in any interconnection agreement arbitrations in which these issues may be posed or through other dispute resolution mechanisms. But the issues should be decided, in the first instance, through negotiation, and disputes that then remain should be resolved case-by-case.

OTHER ISSUES

Operator Services/Directory Assistance

Verizon proposed to price Operator Services/Directory Assistance above the level of TELRIC costs, given the FCC's determination that incumbent LECs were not required to offer unbundled access to (or TELRIC pricing for) OS/DA, as long as they offer customized routing (as Verizon does).³⁸⁷ It cites the FCC's finding that there was a wholesale market in the provision of OS/DA services along with opportunities for CLECs to provision them on their own, and that a CLEC's ability to offer telecommunications services would not be materially diminished if OS/DA service were not offered as a UNE. In view of that decision, Verizon proposes a range of flexible rates for each OS/DA service, which could be changed on ten days' notice; the price range would use the TSLRIC of providing the service as a floor (though in view of the inability at this point to calculate TSLRIC, TELRIC would be used as a surrogate) and the market value of high quality OS/DA as a ceiling. Verizon notes

³⁸⁶ Verizon's Reply Brief, pp. 142-143.

³⁸⁷ Verizon's Initial Brief, citing UNE Remand Order, ¶¶439-465.

in this regard that other providers of wholesale OS/DA services do not tariff their services and are free to charge what the market can bear, and that the prevailing market rates for OS/DA services offered by other providers fall within its proposed range.

The Federal Agencies object to Verizon's proposal, contending that even though the FCC no longer requires TELRIC pricing of OS/DA, the Commission is free to impose it if it considers conditions in New York to warrant it and may designate UNEs in addition to those designated by the FCC. They maintain that Verizon's enormous market power within New York, as evidenced by its providing more access lines than ever to both residential and business subscribers, warrants TELRIC pricing of OS/DA services.

Verizon responds that the Commission may not designate OS/DA as a UNE, inasmuch as the FCC has determined that the service does not meet the standards for designation and that state commissions "must comply with the standards set forth in [that rule] when considering whether to require the unbundling of additional network elements."³⁸⁸ It adds that market power in the offering of UNEs generally does not equate to market power in the offering of wholesale OS/DA services, and only the latter is relevant to pricing of those services. In their reply brief, the Federal Agencies allege an inconsistency between Verizon's request to treat OS/DA services as unregulated for pricing purposes and as regulated insofar as it seeks to recover the costs of providing those services in its UNE rates.³⁸⁹

Verizon's proposed treatment of this service seems reasonable and is recommended. The FCC has determined that OS/DA need not be treated as a UNE and priced at TELRIC, and the Federal Agencies have provided no persuasive policy reason for

³⁸⁸ Verizon's Reply Brief, p. 146, citing 47 CFR §51.317.

³⁸⁹ Federal Agencies' Reply Brief, p. 13, citing the CLEC Alliance's Initial Brief, p. 18.

doing so, given the competitive nature of the service.³⁹⁰ Their allegation of inconsistency in Verizon's treatment of these costs is likewise unpersuasive; as discussed above, Verizon seeks to recover OS/DA costs only from CLECs electing to take the service from Verizon.

Collocation Security Costs

In the Collocation Module (Module 2) of this proceeding, the Commission disallowed 25% of Verizon's claimed costs of security for cageless collocation but invited the parties to propose, in the present module, alternative ways of dealing with the concerns that underlay that decision. The primary basis for the disallowance was Verizon's having based its security cost presentation on its existing central offices, rather than on a TELRIC-based construct designed with collocation in mind. (The Commission had found use of the latter construct proper and for that reason used as the starting point for its analysis the Collocation Cost Model (CCM) that had been sponsored in that module by AT&T and WorldCom.) In addition, the Commission saw a need to avoid the risk of "gold-plating" inherent in traditional, cost-based regulation. The Commission summed up its decision as follows:

Taking all these [previously noted] considerations into account, we will adopt [Verizon's] estimate of security costs (which is not unreasonable as a matter of calculation, if one disregards its non-TELRIC premise) but disallow some portion of those costs--primarily to respond to the failure to present a proper, TELRIC-based estimate, but also to guard against gold-plating and to recognize that CLECs are not the only beneficiaries. The record lacks any clear indication of the proper

³⁹⁰ There is, accordingly, no need to reach the legal issues that might be posed by a state designating as a UNE a service that did not meet the FCC's criteria.

disallowance or share to be assigned to [Verizon]--using a floor space allocator, as some CLECs suggest, may unfairly assign the lion's share of the costs to [Verizon]--and we will, for now, disallow 25% of [Verizon's] estimated security costs. The parties may propose different solutions, to be applied prospectively, in Module 3.³⁹¹

In the ensuing rehearing order, the Commission reaffirmed that decision, elaborating to some extent on its basis.³⁹²

In the present module, Verizon claims to have developed security costs based on the configuration of the CCM's central office. It says it contemplated the same security measures as it did in Module 2, which had not been questioned by the Commission, and that its mix of security measures is efficient. It believes it met the requirements of the Module 2 decision, and that its costs--\$171.05 per bay per month--should be allowed.

Rhythms/Covad object, contending that Verizon failed to explain how it developed its mix of security measures, which include wire mesh partitions and security cameras in every collocation arrangement, and that there is no way for the Commission to evaluate Verizon's assumptions. Noting that the costs claimed here in fact exceed those sought by Verizon in Module 2, they charge Verizon with blatantly disregarding the Commission's directive to assign itself some portion of the costs and with doing nothing to assuage the Commission's concerns about gold plating. For all these reasons, they assert Verizon has failed to bear its burden of proof, and they urge that the rate be set, consistent with their proposal to allocate costs on the basis of floor space in the CCM central office, at \$2.37 per bay per month.³⁹³

³⁹¹ Collocation Opinion, p. 30.

³⁹² Case 98-C-1357, Order Denying Petitions for Rehearing of Opinion No. 00-08, (Collocation Rehearing Order) pp. 6-7.

³⁹³ Rhythms/Covad's Initial Brief, p. 46.

Verizon responds that it fully explained its security cost calculation³⁹⁴ and that Rhythms/Covad declined to cross-examine on the subject. It maintains that it used the same installed security investments used in Module 2-- which, it repeats, the Commission did not question--and applied them to the CCM central office configuration. It thereby complied with the Commission's Module 2 determination, and it sees no basis for challenging its result simply because it produces higher rates than those sought in Module 2. Verizon denies any violation of the Commission's directive to allocate security costs to itself, contenting that Rhythms/Covad misunderstand the Module 3 disallowance, which was premised on the failure, now remedied, to base costs on the CCM central office configuration. Finally, it disputes Rhythms/Covad's floor-space allocation formula, asserting that it effectively allocates security costs to space that does not benefit from the cageless security measures, including caged collocation areas.

Verizon has remedied its failure to base security costs on a forward-looking construct, which was the primary basis for the Commission's Module 3 disallowance. But I cannot disregard the Commission's concern, reiterated in the Module 3 Rehearing Order, about possible gold-plating, which it described as

a risk that has long been recognized in cost-based regulation (sometimes disparaged on that account as "cost-plus" regulation) and that accounts, in part, for the movement more recently to incentive regulation.³⁹⁵

³⁹⁴ Citing Tr. 3,218-3,219.

³⁹⁵ Collocation Rehearing Order, p. 7.

Verizon relied entirely on its Module 2 presentation with regard to the nature of its security measures,³⁹⁶ contending the Commission did not call them into question and that they accordingly may be assumed here. But that overstates the case. The Commission noted the difficulty and impracticability of evaluating specific security measures and then concluded:

while we should not assess particular security measures, we must take care that [Verizon] be denied any opportunity to gold-plate its security systems at the CLECs' expense. One way to do so is to require [Verizon] to bear a portion of the costs at issue, thereby vitiating any incentive to gold-plate.³⁹⁷

Consistent with that observation by the Commission, and recognizing that Verizon has adequately addressed the TELRIC issue that concerned the Commission as well, I recommend that 10%, rather than 25%, of Verizon's currently claimed cageless collocation security costs be disallowed.

CONCLUSION

Verizon's UNE rates should be set in a manner consistent with the conclusions in this recommended decision. Switching investment adjustments are summarized in Appendix B. The principal UNE rates that result from the recommendations made here are set forth, with their derivations, in Appendix C.³⁹⁸

³⁹⁶ Contrary to Rhythms/Covad, Verizon provided more than a vague two-sentence explanation of how it calculated its costs. But the explanation pertained to how the security measures had been applied to the CCM central office, not to how the security measures to be used had been determined.

³⁹⁷ Collocation Opinion, p. 29.

³⁹⁸ Switching rates are set forth on a zone-by-zone basis, as in Verizon's cost presentation. In its brief on exceptions, Verizon should recalculate a statewide average rate on this basis.

Verizon should include, in its brief on exceptions, recalculated rates for all UNEs. If necessary, Staff will be available to consult with Verizon (and other parties) on the processes to be followed.

JAL:gds
May 16, 2001

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VERIZON NEW YORK INC.
Summary of Switching Investment Adjustments
To Verizon's Cost Studies

Links Per Density Zone

	Zone 1A	Zone 1B	Zone 2	Total
Verizon Part A-1 Section				
8.1 Page 2	2,960,461	6,274,583	3,155,223	12,390,267
	23.89%	50.64%	25.47%	100.00%

Verizon Part B-2, Section 4, Page 1 of 3
3rd Revision 10-19-00

	Zone 1A	Zone 1B	Zone 2	Average
Total Local Switch - SCIS	\$7,473,825	\$6,132,768	\$5,734,682	\$6,351,818
Lines Per Switch	61,000	56,500	33,525	
Investment Per Line	\$122.52	\$108.54	\$171.06	\$127.80
Total Non Traffic Sensitive (NTS)	\$3,233,855	\$2,311,632	\$1,531,904	\$2,333,422
NTS Allocation	43.27%	37.69%	26.71%	
Total Traffic Sensitive (TS)	\$4,239,970	\$3,821,136	\$4,202,778	\$4,018,396
TS Allocation	56.73%	62.31%	73.29%	

RD Per Line Investment

	Zone 1A	Zone 1B	Zone 2	Average
Total Local Switch Investment	\$6,405,000	\$5,932,500	\$3,520,125	\$5,431,077
Lines Per Switch	61,000	56,500	33,525	
RD Per Line Investment	\$105.00	\$105.00	\$105.00	\$105.00
Total Non Traffic Sensitive (NTS)	\$4,227,300	\$3,915,450	\$2,323,283	\$3,584,511
NTS Allocation	66.00%	66.00%	66.00%	
Total Traffic Sensitive (TS)	\$2,177,700	\$2,017,050	\$1,196,843	\$1,846,566
TS Allocation	34.00%	34.00%	34.00%	

VERIZON NEW YORK INC.
Summary of Switching Investment Adjustments
To Verizon's Cost Studies

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
LINKS:			
2-Wire Analog Link DS-O-Density Zone 1 a	\$15.90		\$10.65
2-Wire Analog Link DS-O-Density Zone 1 b	\$19.31		\$12.69
2-Wire Analog Link DS-O-Density Zone 2	\$26.39		\$17.43
2-Wire Analog Link DS-1 -Density Zone 1 a	\$10.77	\$4.18	\$7.29
2-Wire Analog Link DS-1 -Density Zone 1 b	\$15.31	\$7.70	\$10.21
2-Wire Analog Link DS-1 -Density Zone 2	\$21.99	\$18.84	\$14.70
2-Wire Digital Link DS-O-Density Zone 1 a	\$21.84		\$14.55
2-Wire Digital Link DS-O-Density Zone 1 b	\$29.71		\$17.69
2-Wire Digital Link DS-O-Density Zone 2	\$39.94		\$24.35
2-Wire Digital Link DS-1 -Density Zone 1 a	\$17.16		\$11.69
2-Wire Digital Link DS-1 -Density Zone 1 b	\$24.64		\$15.12
2-Wire Digital Link DS-1 -Density Zone 2	\$34.33		\$21.48
4-Wire Analog Link DS-O-Density Zone 1 a	\$41.84		\$27.82
4-Wire Analog Link DS-O-Density Zone 1 b	\$50.97		\$29.66
4-Wire Analog Link DS-O-Density Zone 2	\$63.89		\$37.77
4-Wire Analog Link DS-1 -Density Zone 1a	\$28.90		\$20.21
4-Wire Analog Link DS-1 -Density Zone 1 b	\$37.81		\$23.34
4-Wire Analog Link DS-1 -Density Zone 2	\$50.18		\$31.16
4-Wire Digital Link DS-1 -Density Zone 1a	\$122.32	\$28.61	\$82.87
4-Wire Digital Link DS-I-Density Zone 1 b	\$146.65	\$43.32	\$87.44
4-Wire Digital Link DS-I-Density Zone 2	\$197.39	\$69.24	\$120.85
ADSL Copper Link	\$32.66		\$32.66
HDSL Capable Density Zone 1a		\$1.53	
HDSL Capable Density Zone 1 b		\$7.69	
HDSL Capable Density Zone 2		\$23.41	
ADSL Capable Density Zone 1a		\$1.20	
ADSL Capable Density Zone 1 b		\$6.39	
ADSL Capable Density Zone 2		\$19.02	
HDSL 2 Capable Density Zone 1a		\$1.16	
HDSL 2 Capable Density Zone 1 b		\$5.92	
HDSL 2 Capable Density Zone 2		\$18.01	
ADSL Equipped Density Zone 1a		\$12.40	
ADSL Equipped Density Zone 1 b		\$15.78	
ADSL Equipped Density Zone 2		\$26.25	
HDSL Capable Density Zone 1a		\$28.61	
HDSL Capable Density Zone 1 b		\$43.32	
HDSL Capable Density Zone 2		\$69.24	
Wideband Access Testing	\$1.99		\$2.02
2-Wire Ground Start CSS Link Density Zone 1a	\$3.22		\$2.93
2-Wire Ground Start CSS Link Density Zone 1 b	\$3.20		\$2.91
2-Wire Ground Start CSS Link Density Zone 2	\$3.21		\$2.92

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
LINKS (Continued From Previous Page)			
2-Wire Reverse Battery CSS Link Density Zone 1a	\$5.22		\$4.71
2-Wire Reverse Battery CSS Link Density Zone 1 b	\$5.18		\$4.67
2-Wire Reverse Battery CSS Link Density Zone 2	\$5.19		\$4.68
2-Wire EBS (P Phone) CSS Link Density Zone 1a	\$17.70		\$15.82
2-Wire EBS (P Phone) CSS Link Density Zone 1 b	\$17.58		\$15.72
2-Wire EBS (P Phone) CSS Link Density Zone 2	\$17.62		\$15.75
2-Wire Coin CSS Link Density Zone 1a	\$2.99		\$2.73
2-Wire Coin CSS Link Density Zone 1 b	\$2.97		\$2.71
2-Wire Coin CSS Link Density Zone 2	\$2.97		\$2.72
House and Riser			
Floor Access-Density Zone 1 a	\$0.03		\$0.02
Floor Access-Density Zone 1 b	\$0.03		\$0.02
Floor Access-Density Zone 2	\$0.02		\$0.01
Building Access-Density Zone 1 a	\$1.51		\$0.88
Building Access-Density Zone 1 b	\$1.46		\$1.27
Building Access-Density Zone 2	\$1.15		\$1 .00
Building Set-up Charge Density Zone 1a	\$857.31		\$810.71
Building Set-up Charge Density Zone 1 b	\$727.57		\$688.02
Building Set-up Charge Density Zone 2	\$637.04		\$602.41
Terminal Connection Charge Density Zone 1 a	\$328.70		\$310.83
Terminal Connection Charge Density Zone 1 b	\$276.86		\$261.81
Terminal Connection Charge Density Zone 2	\$241.59		\$228.46
Network Interface Device			
2-Wire NID-Density Zone 1a	\$1.64		\$1.39
2-Wire NID-Density Zone 1 b	\$1.56		\$1.34
2-Wire NID-Density Zone 2	\$1.39		\$1.19
4-Wire NID-Density Zone 1a	\$3.14		\$2.66
4-Wire NID-Density Zone 1 b	\$1.65		\$1.42
4-Wire NID-Density Zone 2	\$0.98		\$0.84
DS1 NID-Density Zone 1a	\$8.85		\$7.52
DS1 NID-Density Zone 1 b	\$8.70		\$7.48
DS1 NID-Density Zone 2	\$7.96		\$6.83
Entrance Facilities			
OC-12 Fixed per Month	\$3,833.67		\$3,665.07
OC-12 per 1/4 Mile per Month	\$8.18		\$6.40
OC-3 Fixed per Month	\$1,569.10		\$1,506.05
OC-3 per 1/4 Mile per Month	\$8.13		\$6.37
STS1 Fixed per Month	\$900.04		\$880.91
STS1 per 1/4 Mile per Month	\$10.90		\$8.54
DS3 Fixed per Month	\$903.19		\$891 .00
DS3 per 1/4 Mile per Month	\$10.90		\$8.54

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon Proposed</u> B	<u>ATT/MCI Proposed</u> C	<u>RD</u> D
LINKS (Continued From Previous Page)			
<i>EEL Testing Costs</i>			
<i>Density Zone 1 a</i>			
2-Wire Analog EEL (DS1) Density Zone 1 a	\$0.36		\$0.27
2-Wire Analog EEL (DSO) Density Zone 1 a	\$0.54		\$0.38
2-Wire Digital EEL (DS1) Density Zone 1a	\$0.58		\$0.43
2-Wire Digital EEL (DSO) Density Zone 1 b	\$0.75		\$0.55
4-Wire Analog EEL (DS1) Density Zone 1 a	\$0.99		\$0.76
4-Wire Analog EEL (DSO) Density Zone 1 b	\$1.49		\$1.06
4-Wire Digital EEL (DS1) Density Zone 1a	\$4.23		\$3.13
<i>Density Zone 1 b</i>			
2-Wire Analog EEL (DS1) Density Zone 1 b	\$0.48		\$0.36
2-Wire Analog EEL (DSO) Density Zone 1 b	\$0.67		\$0.48
2-Wire Digital EEL (DS1) Density Zone 1 b	\$0.75		\$0.56
2-Wire Digital EEL (DSO) Density Zone 1 b	\$0.94		\$0.69
4-Wire Analog EEL (DS1) Density Zone 1 b	\$1.15		\$0.88
4-Wire Analog EEL (DSO) Density Zone 1 b	\$1.66		\$1.19
4-Wire Digital EEL (DS1) Density Zone 1 b	\$4.82		\$3.57
<i>Density Zone 2</i>			
2-Wire Analog EEL (DS1) Density Zone 2	\$0.67		\$0.50
2-Wire Analog EEL (DSO) Density Zone 2	\$0.87		\$0.63
2-Wire Digital EEL (DS1) Density Zone 2	\$1.03		\$0.77
2-Wire Digital EEL (DSO) Density Zone 2	\$1.24		\$0.90
4-Wire Analog EEL (DS1) Density Zone 2	\$1.49		\$1.11
4-Wire Analog EEL (DSO) Density Zone 2	\$2.01		\$1.44
4-Wire Digital EEL (DS1) Density Zone 2	\$6.41		\$4.71
<i>Sub-Loop Unbundling</i>			
LINKS:			
2-Wire Digital Designed Metallic (18-30kft)			
Engineering Work Order	\$881.73		\$661.30
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of 1 Bridged Tap	\$363.25		\$267.58
Removal of 1 Bridged Tap-Expedite	\$504.23		\$374.99
Removal of Multiple Bridged Taps	\$887.32		\$656.31
Removal of Multiple Bridged Taps-Expedite	\$1,242.45		\$918.84
Removal of Load Coils (up to 21 kft)	\$1,061.73		\$786.26
Removal of Load Coils (up to 21 kft)-Expedite	\$1,486.65		\$1,100.77
Removal of Load Coils (up to 27kft)	\$1,410.92		\$1,045.33
Removal of Load Coils (up to 27kft)-Expedite	\$1,975.58		\$1,463.46
LINKS (Continued From Previous Page)			
2-Wire ADSL Compatible (less than 18kft)			
Engineering Work Order	\$881.73		\$661.30

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	R R
A	B	C	D
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of 1 Bridged Tap	\$363.25		\$267.58
Removal of 1 Bridged Tap-Expedite	\$504.23		\$374.99
Removal of Multiple Bridged Taps	\$887.32		\$656.31
Removal of Multiple Bridged Taps-Expedite	\$1,242.45		\$918.84
2-Wire ADSL Compatible (less than 12kft)			
Engineering Work Order	\$881.73		\$661.30
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of 1 Bridged Tap	\$363.25		\$267.58
Removal of 1 Bridged Tap-Expedite	\$504.23		\$374.99
Removal of Multiple Bridged Taps	\$887.32		\$656.31
Removal of Multiple Bridged Taps-Expedite	\$1,242.45		\$918.84
2-Wire HDSL Compatible (less than 12kft)			
Engineering Work Order	\$881.73		\$661.30
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of 1 Bridged Tap	\$363.25		\$267.58
Removal of 1 Bridged Tap-Expedite	\$504.23		\$374.99
Removal of Multiple Bridged Taps	\$887.32		\$656.31
Removal of Multiple Bridged Taps-Expedite	\$1,242.45		\$918.84
4-Wire HDSL Compatible (less than 12kft)			
Engineering Work Order	\$881.73		\$661.30
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of 1 Bridged Tap	\$363.25		\$267.58
Removal of 1 Bridged Tap-Expedite	\$504.23		\$374.99
Removal of Multiple Bridged Taps	\$887.32		\$656.31
Removal of Multiple Bridged Taps-Expedite	\$1,242.45		\$918.84
2-Wire Digital Designed with ISDN Loop Electronics on Metallic			
Engineering Work Order	\$881.73		\$661.30
Engineering Work Order-Expedite	\$1,243.70		\$932.78
Removal of Load Coils (up to 21 kft)	\$1,061.73		\$786.26
Removal of Load Coils (up to 21 kft)-Expedite	\$1,486.65		\$1,100.77
Removal of Load Coils (up to 27kft)	\$1,410.92		\$1,045.33
Removal of Load Coils (up to 27kft)-Expedite	\$1,975.58		\$1,463.46
Addition of ISDN Loop Extension Electronics	\$999.50		\$876.75
Addition of ISDN Loop Extension Electronics-Expedite	\$1,009.44		\$885.57
2-Wire Analog Link With Line Sharing			
Residential Service Contribution Rate Element-Density Zone 1a*	\$2.69		\$1.82
Residential Service Contribution Rate Element-Density Zone 1 b*	\$3.83		\$2.55
Residential Service Contribution Rate Element-Density Zone 2*	\$5.50		\$3.67
POT Bay Termination (per 100 VG/month)	\$2.00		\$2.00
POT Bay Termination (per 100 VG-NRC)	\$244.64		\$244.64
Cable and Frame Termination (per 100 VG/month)	\$14.35		\$14.35

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	R	R
A	B	C		D
LINKS (Continued From Previous Page)				
Cable and Frame Termination (per 100 VG/NRC)	\$1,499.35			\$1,499.35
Bay/Relay Rack for Splitters (per arrangement/month)	\$1.23			\$1.23
Land and Building for Splitter Bay (per arrangement/month)	\$3.55			\$3.55
Maintenance of Splitter Equipment (per splitter/month)	\$51.52			\$17.91
Wideband Test Access (per line/month)	\$1.99			\$2.02
Splitter Installation Cost (serving 96 lines-NRC)	\$1,369.60			\$1,278.82
Line Sharing				
Line Sharing Conversion Non-Recurring Costs				
Service Order	\$9.59			\$9.59
Service Order-Expedite	\$14.88			\$14.88
Central Office Wiring initial	\$41.53			\$41.53
Central Office Wiring Initial-Expedite	\$59.40			\$59.40
Central Office Wiring Additional	\$20.66			\$20.66
Central Office Wiring Additional-Expedite	\$29.55			\$29.55
Provisioning	\$0.27			\$0.27
Provisioning-Expedite	\$0.40			\$0.40
Field Installation Dispatch	\$121.35			\$121.35
Field Installation Dispatch-Expedite	\$170.92			\$170.92
Manual Intervention Surcharge	\$28.26			\$28.26
Manual Intervention Surcharge-Expedite	\$43.86			\$43.86
Misdirected Trouble Report Dispatch In	\$46.33			\$46.33
Misdirected Trouble Report Dispatch In-Expedite	\$67.87			\$67.87
SWITCHING:				
Local Switching				
Analog Line Port-Density Zone 1a	\$2.70			\$2.68
Analog Line Port-Density Zone 1 b	\$2.62			\$3.16
Analog Line Port-Density Zone 2	\$3.27			\$3.18
Digital Line Port-Density Zone 1a	\$1.17	\$0.70		\$1.35
Digital Line Port-Density Zone 1 b	\$1.38			\$1.83
Digital Line Port-Density Zone 2	\$1.84			\$1.94
Analog Coin Port-Density Zone 1a	\$3.22			Not In RD
Analog Coin Port-Density Zone 1 b	\$3.15			Not In RD
Analog Coin Port-Density Zone 2	\$3.80			Not In RD
Digital Coin Port-Density Zone 1a	\$1.27			Not In RD
Digital Coin Port-Density Zone 1 b	\$1.48			Not In RD
Digital Coin Port-Density Zone 2	\$1.95			Not In RD
Digital Trunk Port-Density Zone 1a	\$125.82	\$1.95		Not In RD
Digital Trunk Port-Density Zone 1 b	\$135.24			Not In RD
Digital Trunk Port-Density Zone 2	\$127.17			Not In RD
E911 Dedicated Port Density Zone 1a	\$125.82			Not In RD
E911 Dedicated Port Density Zone 1 b	\$135.24			Not In RD

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
SWITCHING (Continued From Previous Page)			
E911 Dedicated Port Density Zone 2	\$127.17		Not In RD
Digital Tandem Port (Dedicated)	\$235.40	\$2.05	Not In RD
TOPS Trunk Port (Dedicated)	\$35.16		Not In RD
Analog ISDN BRI Port-Density Zone 1a	\$15.45		Not In RD
Analog ISDN BRI Port-Density Zone 1 b	\$17.24		Not In RD
Analog ISDN BRI Port-Density Zone 2	\$17.86		Not In RD
Digital ISDN PRI Port-Density Zone 1a	\$153.84		Not In RD
Digital ISDN PRI Port-Density Zone 1 b	\$177.05		Not In RD
Digital ISDN PRI Port-Density Zone 2	\$169.97		Not In RD
Analog ISDN BRI Port-Density Zone 1a	\$15.45		Not In RD
Analog ISDN BRI Port-Density Zone 1b	\$17.24		Not In RD
Analog ISDN BRI Port-Density Zone 2	\$17.86		Not In RD
Digital ISDN BRI Port-Density Zone 1a	\$2.92		Not In RD
Digital ISDN BRI Port-Density Zone 1 b	\$3.60		Not In RD
Digital ISDN BRI Port-Density Zone 2	\$4.19		Not In RD
ISDN PRI Port-Density Zone 1a	\$124.57		Not In RD
ISDN PRI Port-Density Zone 1 b	\$143.99		Not In RD
ISDN PRI Port-Density Zone 2	\$137.78		Not In RD
Features			
Centrex			
Centrex Intercom-Density Zone 1a	\$0.61		Not In RD
Centrex Intercom-Density Zone 1 b	\$0.52		Not In RD
Centrex Intercom-Density Zone 2	\$1.15		Not In RD
Centrex Announcement-Density Zone 1a	\$1.05		Not In RD
Centrex Announcement-Density Zone 1 b	\$1.05		Not In RD
Centrex Announcement-Density Zone 2	\$1.05		Not In RD
3-Way Conference-Density Zone 1 a	\$0.30		Not In RD
3-Way Conference-Density Zone 1 b	\$0.30		Not In RD
3-Way Conference-Density Zone 2	\$0.30		Not In RD
Automatic Callback-Density Zone 1a	\$0.42		Not In RD
Automatic Callback-Density Zone 1 b	\$0.42		Not In RD
Automatic Callback-Density Zone 2	\$0.42		Not In RD
Distinctive Ringing-Density Zone 1 a	\$0.03		Not In RD
Distinctive Ringing-Density Zone 1 b	\$0.03		Not In RD
Distinctive Ringing-Density Zone 2	\$0.03		Not In RD
Loudspeaker Paging-Density Zone 1a	\$8.97		Not In RD
Loudspeaker Paging-Density Zone 1 b	\$8.97		Not In RD
Loudspeaker Paging-Density Zone 2	\$8.97		Not In RD
Meet-Me Conference-Density Zone 1 a	\$0.19		Not In RD
Meet-Me Conference-Density Zone 1 b	\$0.19		Not In RD
Meet-Me Conference-Density Zone 2	\$0.19		Not In RD

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	R R
A	B	C	D
SWITCHING (Continued From Previous Page)			
Selective Call Acceptance-Density Zone 1 a	\$0.05		Not In RD
Selective Call Acceptance-Density Zone 1 b	\$0.05		Not In RD
Selective Call Acceptance-Density Zone 2	\$0.05		Not In RD
Selective Call Forwarding-Density Zone 1 a	\$0.02		Not In RD
Selective Call Forwarding-Density Zone 1 b	\$0.02		Not In RD
Selective Call Forwarding-Density Zone 2	\$0.02		Not In RD
Selective Call Rejection-Density Zone 1 a	\$0.31		Not In RD
Selective Call Rejection-Density Zone 1 b	\$0.31		Not In RD
Selective Call Rejection-Density Zone 2	\$0.31		Not In RD
Six Way Conference-Density Zone 1 a	\$1.13		Not In RD
Six Way Conference-Density Zone 1 b	\$1.13		Not In RD
Six Way Conference-Density Zone 2	\$1.13		Not In RD
Station Message Detail Record-Density Zone 1 a	\$19.12		Not In RD
Station Message Detail Record-Density Zone 1 b	\$19.12		Not In RD
Station Message Detail Record-Density Zone 2	\$19.12		Not In RD
<i>Individual Line Features</i>			
Three-way Calling-Density Zone 1 a	\$0.30		Not In RD
Three-way Calling-Density Zone 1 b	\$0.30		Not In RD
Three-way Calling-Density Zone 2	\$0.30		Not In RD
Remote Call Forwarding-Density Zone 1 a	\$0.98		Not In RD
Remote Call Forwarding-Density Zone 1 b	\$1.18		Not In RD
Remote Call Forwarding-Density Zone 2	\$1.40		Not In RD
Calling Number Delivery-Density Zone 1a	\$0.07		Not In RD
Calling Number Delivery-Density Zone 1 b	\$0.07		Not In RD
Calling Number Delivery-Density Zone 2	\$0.07		Not In RD
Calling Number & Name-Density Zone 1a	\$0.13		Not In RD
Calling Number & Name-Density Zone 1 b	\$0.14		Not In RD
Calling Number & Name-Density Zone 2	\$0.15		Not In RD
Call Waiting Display Number-Density Zone 1a	\$0.00		Not In RD
Call Waiting Display Number-Density Zone 1 b	\$0.00		Not In RD
Call Waiting Display Number-Density Zone 2	\$0.00		Not In RD
Call Waiting Display Name-Density Zone 1 a	\$0.00		Not In RD
Call Waiting Display Name-Density Zone 1a	\$0.00		Not In RD
Call Waiting Display Name-Density Zone 1a	\$0.00		Not In RD
Anonymous Call Rejection-Density Zone 1 a	\$0.08		Not In RD
Anonymous Call Rejection-Density Zone 1 b	\$0.08		Not In RD
Anonymous Call Rejection-Density Zone 2	\$0.08		Not In RD
Automatic Recall (Call Return)-Density Zone 1a	\$0.42		Not In RD
Automatic Recall (Call Return)-Density Zone 1 b	\$0.42		Not In RD
Automatic Recall (Call Return)-Density Zone 2	\$0.42		Not In RD

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	Verizon	ATT/MCI	RD
A	<u>Proposed</u>	<u>Proposed</u>	D
B	C		
SWITCHING (Continued From Previous Page)			
<i>ISDN Features</i>			
Circuit Switched Voice Intercom-Density Zone 1 a	\$14.68		Not In RD
Circuit Switched Voice intercom-Density Zone 1 b	\$12.48		Not In RD
Circuit Switched Voice intercom-Density Zone 2	\$27.58		Not In RD
Circuit Switched Voice Announce-Density Zone 1 a	\$13.29		Not In RD
Circuit Switched Voice Announce-Density Zone 1 b	\$13.29		Not In RD
Circuit Switched Voice Announce-Density Zone 2	\$13.29		Not In RD
Six-way Conference Calling-Density Zone 1a	\$0.68		Not In RD
Six-way Conference Calling-Density Zone 1 b	\$0.68		Not In RD
Six-way Conference Calling-Density Zone 2	\$0.68		Not In RD
Three-way Calling-Density Zone 1a	\$0.30		Not In RD
Three-way Calling-Density Zone 1 b	\$0.30		Not in RD
Three-way Calling-Density Zone 2	\$0.30		Not In RD
Calling Number Delivery-Density Zone 1 a	\$0.00		Not In RD
Calling Number Delivery-Density Zone 1 b	\$0.00		Not In RD
Calling Number Delivery-Density Zone 2	\$0.00		Not In RD
Calling Name Delivery-Density Zone 1a	\$3.02		Not In RD
Calling Name Delivery-Density Zone 1 b	\$3.26		Not In RD
Calling Name Delivery-Density Zone 2	\$3.53		Not In RD
Voice Dialing	\$1.49		Not In RD
Callability	\$0.19		Not In RD
SMDI Port-Density Zone 1a	\$207.25		Not In RD
SMDI Port-Density Zone 1 b	\$207.25		Not In RD
SMDI Port-Density Zone 2	\$207.25		Not In RD
<i>Local Switch Usage</i>			
Originating-AHD (usage)-Density Zone 1 a	\$0.003246	\$0.000800	\$0.001082
Originating-AHD (usage)-Density Zone 1 b	\$0.002477		\$0.000833
Originating-AHD (usage)-Density Zone 2	\$0.005001		\$0.001589
Terminating AHD (usage)-Density Zone 1 a	\$0.002949		\$0.000982
Terminating AHD (usage)-Density Zone 1 b	\$0.002417		\$0.000813
Terminating AHD (usage)-Density Zone 2	\$0.004957		\$0.001576
Common EO Trunk AHD (usage)-Density Zone 1a	\$0.000603		\$0.000345
Common EO Trunk AHD (usage)-Density Zone 1 b	\$0.000603		\$0.000345
Common EO Trunk AHD (usage)-Density Zone 2	\$0.000523		\$0.000299
Common Transport	\$0.000455		\$0.000301
<i>Tandem and TOPS Usage (shared)</i>			
Tandem Switch - AHD (usage)	\$0.000873		\$0.000409
Common Tandem Trunk - AHD (usage)	\$0.000967		\$0.000553
Common TOPS Trunk (MOU)	\$0.000158		\$0.000090

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon Proposed</u> B	<u>ATT/MCI Proposed</u> C	<u>RD</u> D
SWITCHING (Continued From Previous Page)			
<i>Local Switch Usage w/o Features</i>			
Terminating Usage w/o Features Density Zone 1 a	\$0.002590		Not In RD
Terminating Usage w/o Features Density Zone 1 b	\$0.001640		Not In RD
Terminating Usage w/o Features Density Zone 2	\$0.002345		Not In RD
<i>Switch - Miscellaneous</i>			
Two-Way Trunking	\$3.10		Not In RD
<i>BACost Feature Study - Sample</i>			
3-Way Conference-Density Zone 1 a	\$0.42		Not In RD
3-Way Conference-Density Zone 1 b	\$0.42		Not In RD
3-Way Conference-Density Zone 2	\$0.42		Not In RD
TRANSPORT:			
<i>IOF</i>			
DS-0 Fixed	\$34.02	\$15.06	\$28.12
DS-0 Mileage	\$0.11		\$0.08
DS-1 Fixed	\$68.39	\$109.51	\$53.99
DS-1 Mileage	\$0.11		\$0.08
DS-3 Fixed	\$888.74	\$586.80	\$701.52
DS-3 Mileage	\$19.15		\$14.98
STS-1 Fixed	\$889.44		\$702.08
STS-1 Mileage	\$19.16		\$14.99
OC-3 Fixed	\$2,812.87		\$2,220.34
OC-3 Mileage	\$61.85		\$48.40
OC-12 Fixed	\$4,166.46		\$3,288.79
OC-12 Mileage	\$113.88		\$88.23
OC-48 Fixed	\$4,511.93		\$3,561.49
OC-48 Mileage	\$14.31		\$10.49
<i>CO Multiplexing</i>			
I/O Multiplexing (Common Equipment per Month)	\$210.81		\$166.40
1/0 Multiplexing (per Plug-in per Month)	\$6.79		\$5.36
3/1 Multiplexing	\$560.47		\$442.41
<i>Dark Fiber</i>			
<i>Loop</i>			
Central Office Fixed Cost per Month	\$11.09		\$9.34
Customer Premises Cost per Month	\$4.69		\$5.12
Mileage Cost per Month	\$65.41		\$54.16
Unusable Cost per Mile per Month	\$56.11		\$46.42
<i>IOF</i>			
Fixed Cost per Month	\$22.18		\$18.67
Mileage Cost per Month	\$67.59		\$53.21

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	R R D
A	B	C	D
TRANSPORT (Continued From Previous Page)			
SIGNALING SYSTEMS & DATABASES:			
STP Port	\$339.27	\$263.65	\$262.00
LIDB Query	\$0.000130	\$0.000805	\$0.000091
800 Query	\$0.000183	\$0.000425	\$0.000128
Signaling Link (fixed per Month)	\$34.01	\$14.46	\$28.12
Signaling Link (per Mile per Month)	\$0.11		\$0.08
E911 Common (shared) Port per Access Line/Month	\$0.022		\$0.019
OPERATOR SERVICES:			
OPH: Sent Paid, Pass Through, Calling Card/Sec	\$0.014083		\$0.013127
OPH: Sent Paid, Pass Through, Calling Card/Req	\$0.387090		\$0.360748
OPH: Calling Card per Request	\$0.498951		\$0.465103
OPH: Collect & Bill to 3rd Party per Request	\$1.065170		\$0.992500
Busy Line Verification (per second)	\$0.014431		\$0.013385
Busy Line Verification (per request)	\$0.742613		\$0.688781
Busy Line Verification/Interrupt (per second)	\$0.014431		\$0.013385
Busy Line Verification/Interrupt (per request)	\$0.770753		\$0.714881
Calling Card (Mechanized)/ Req	\$0.178709		\$0.136387
Collect and 3rd # Billing (Mechanized)/ Req	\$0.178256		\$0.137056
Directory Assistance per Request	\$0.320366		\$0.291863
Call Completion Additive/Req	\$0.024595		\$0.020737
Intercept per Request	\$0.005935		\$0.004674
Intercept per Line per Month	\$0.021522		\$0.016951
Branding per Call	\$0.000752		\$0.000620
Automated Coin Toll Service (ACTS) per Request	\$0.010962		\$0.008659
MISCELLANEOUS:			
Access to OSS per Loop or Resold Line per Month	\$0.58		\$0.54
ATLAS Display of Listings (DLA) per Request	\$0.217		\$0.205
Product and Service Availability (PSA) per Year	\$8,082		\$7,643
Street Address Guide (SAG) per Year	\$7,049		\$6,666
Daily Usage File (DUF) per Record	\$0.001065		\$0.000994
Daily Usage File (DUF) per Magnetic Tape	\$23.09		\$21.56
Electronic Customer Service Record Retrieval (CSR)	\$0.001		\$0.001
Non-Recurring Costs (NRCs)			
2-Wire New Initial Link			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$41.53		\$39.31
Central Office Wiring-Expedite	\$59.40		\$56.23
Provisioning	\$0.27		\$0.12
Provisioning-Expedite	\$0.40		\$0.18

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	R	R
A	B	C		D
<u>NRCs (Continued From Previous Page)</u>				
<i>2-Wire New Additional Link</i>				
Central Office Wiring	\$20.66			\$19.48
Central Office Wiring-Expedite	\$29.55			\$27.87
Provisioning	\$0.27			\$0.12
Provisioning-Expedite	\$0.40			\$0.18
<i>2-Wire Hot Cut Initial</i>				
Service Order	\$9.59			\$8.95
Service Order-Expedite	\$14.88			\$13.90
Central Office Wiring	\$72.94			\$68.95
Central Office Wiring-Expedite	\$104.33			\$98.63
Provisioning	\$122.28			\$107.29
Provisioning-Expedite	\$180.22			\$158.62
<i>2-Wire Hot Cut Additional Link</i>				
Central Office Wiring	\$46.40			\$43.71
Central Office Wiring-Expedite	\$66.37			\$62.52
Provisioning	\$94.86			\$81.52
Provisioning-Expedite	\$139.60			\$120.46
<i>4-Wire New Initial</i>				
Service Order	\$9.59			\$8.95
Service Order-Expedite	\$14.88			\$13.90
Central Office Wiring	\$42.07			\$39.85
Central Office Wiring-Expedite	\$60.17			\$57.00
Provisioning	\$0.27			\$0.12
Provisioning-Expedite	\$0.40			\$0.18
<i>4-Wire New Additional Link</i>				
Central Office Wiring	\$24.57			\$23.24
Central Office Wiring-Expedite	\$35.15			\$33.24
Provisioning	\$0.27			\$0.25
Provisioning-Expedite	\$0.40			\$0.37
<i>4-Wire Hot Cut (Analog only) Initial</i>				
Service Order	\$9.59			\$8.95
Service Order-Expedite	\$14.88			\$13.90
Central Office Wiring	\$70.44			\$66.64
Central Office Wiring-Expedite	\$100.75			\$95.33
Provisioning	\$118.65			\$110.96
Provisioning-Expedite	\$175.67			\$164.27
<i>4-Wire Hot Cut (Analog only) Additional</i>				
Central Office Wiring	\$50.47			\$47.59
Central Office Wiring-Expedite	\$72.19			\$68.07
Provisioning	\$106.12			\$99.26
Provisioning-Expedite	\$157.12			\$146.96

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurrma Charge A	Verizon Proposed B	ATT/MCI Proposed C	RD D
<u>NRCs (Continued From Previous Page)</u>			
<i>ADSUHDSL New Initial</i>			
Service Order	\$11.64		\$10.87
Service Order-Expedite	\$18.06		\$16.87
Central Office Wiring	\$41.51		\$39.32
Central Office Wiring-Expedite	\$59.37		\$56.24
Provisioning	\$0.27		\$0.12
Provisioning-Expedite	\$0.40		\$0.18
<i>ADSUHDSL New Additional Link</i>			
Central Office Wiring	\$17.25		\$16.26
Central Office Wiring-Expedite	\$24.68		\$23.26
Provisioning	\$0.27		\$0.12
Provisioning-Expedite	\$0.40		\$0.18
<i>Switching</i>			
<i>End Office Line Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$27.75		\$26.35
Central Office Wiring-Expedite	\$39.69		\$37.69
Provisioning	\$7.60		\$3.98
Provisioning-Expedite	\$10.66		\$5.57
<i>End Office Trunk Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$28.88		\$27.46
Central Office Wiring-Expedite	\$41.30		\$39.28
Provisioning	\$553.88		\$525.91
Provisioning-Expedite	\$715.42		\$679.22
<i>Tandem Trunk Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$29.86		\$28.43
Central Office Wiring-Expedite	\$42.71		\$40.66
Provisioning	\$486.44		\$461.96
Provisioning-Expedite	\$647.98		\$615.27
<i>TOPS Trunk Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$30.49		\$29.00
Central Office Wiring-Expedite	\$43.62		\$41.47
Provisioning	\$598.18		\$567.90
Provisioning-Expedite	\$759.72		\$721.21

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon Proposed</u> B	<u>ATT/MCI Proposed</u> C	<u>RD</u> D
<u>NRCs (Continued From Previous Page)</u>			
<i>Add or Change Features</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
<i>End Office IDLC Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$37.43		\$35.51
Central Office Wiring-Expedite	\$53.53		\$50.79
Provisioning	\$486.74		\$461.48
Provisioning-Expedite	\$666.66		\$632.00
<i>Switched DS-1 Port</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$31.61		\$30.03
Central Office Wiring-Expedite	\$45.22		\$42.95
Provisioning	\$447.56		\$425.02
Provisioning-Expedite	\$608.66		\$578.02
<i>SMDI Trunk Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$37.51		\$35.58
Central Office Wiring-Expedite	\$53.65		\$50.89
Provisioning	\$417.64		\$396.44
Provisioning-Expedite	\$578.15		\$548.88
<i>UNE-Platform (UNE-P)</i>			
<i>2-wire UNE-Platform New-Initial</i>			
Service Order	\$1.03		\$0.96
Service Order-Expedite	\$1.60		\$1.49
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$10.35		\$2.95
Provisioning-Expedite	\$14.51		\$4.14
<i>2-wire LINE-Platform New-Additional</i>			
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$10.12		\$2.83
Provisioning-Expedite	\$14.19		\$3.98

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon Proposed</u> B	<u>ATT/MCI Proposed</u> C	<u>RD</u> D
<u>NRCs (Continued From Previous Page)</u>			
<i>P-wire UNE-Platform Conversion-Initial</i>			
Service Order	\$1.03		\$0.96
Service Order-Expedite	\$1.60		\$1.49
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$5.76		\$2.86
Provisioning-Expedite	\$8.08		\$4.02
<i>2-wire LINE-Platform Conversion-Additional</i>			
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$5.53		\$2.75
Provisioning-Expedite	\$7.77		\$3.86
<i>Interoffice Facilities (IOF)</i>			
<i>IOF Voice Grade</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$34.98		\$33.21
Central Office Wiring-Expedite	\$50.01		\$47.50
Provisioning	\$106.85		\$100.14
Provisioning-Expedite	\$158.19		\$148.26
<i>IOF DS-1</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$35.66		\$33.87
Central Office Wiring-Expedite	\$51.01		\$48.45
Provisioning	\$115.84		\$109.21
Provisioning-Expedite	\$167.96		\$158.35
<i>IOF DS-3</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$49.95		\$47.43
Central Office Wiring-Expedite	\$71.45		\$67.84
Provisioning	\$165.47		\$155.70
Provisioning-Expedite	\$223.35		\$210.28
<i>IOF STS-1</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$49.95		\$47.43
Central Office Wiring-Expedite	\$71.45		\$67.84
Provisioning	\$165.47		\$155.70
Provisioning-Expedite	\$223.35		\$210.28

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon Proposed</u> B	<u>ATT/MCI Proposed</u> C	<u>RD</u> D
<u>NRcs (Continued From Previous Page)</u>			
<u>/OF Optical (OC-3, OC-12, OC-48)</u>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$55.23		\$52.38
Central Office Wiring-Expedite	\$79.01		\$74.93
Provisioning	\$201.78		\$189.61
Provisioning-Expedite	\$277.11		\$260.47
<u>Entrance Facility DS-1</u>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$35.66		\$33.87
Central Office Wiring-Expedite	\$51.01		\$48.45
Provisioning	\$115.84		\$109.21
Provisioning-Expedite	\$167.96		\$158.35
<u>Entrance Facility DS-3</u>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$49.95		\$47.43
Central Office Wiring-Expedite	\$71.45		\$67.84
Provisioning	\$165.47		\$155.70
Provisioning-Expedite	\$223.35		\$210.28
<u>Entrance Facility STS-1</u>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$49.95		\$47.43
Central Office Wiring-Expedite	\$71.45		\$67.84
Provisioning	\$165.47		\$155.70
Provisioning-Expedite	\$223.35		\$210.28
<u>Entrance Facility Optical</u>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$49.95		\$47.43
Central Office Wiring-Expedite	\$71.45		\$67.84
Provisioning	\$165.47		\$155.70
Provisioning-Expedite	\$223.35		\$210.28

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	RD
A	B	C	D
<i>NRCs (Continued From Previous Page)</i>			
<i>Multiplexing DS-3 to DS-1</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$28.88		\$27.46
Central Office Wiring-Expedite	\$41.30		\$39.28
Provisioning	\$170.76		\$160.81
Provisioning-Expedite	\$231.18		\$217.84
<i>Multiplexing DS-1 to DS-0</i>			
Service Order	\$65.57		\$61.22
Service Order-Expedite	\$101.78		\$95.03
Central Office Wiring	\$28.88		\$27.46
Central Office Wiring-Expedite	\$41.30		\$39.28
Provisioning	\$122.85		\$115.98
Provisioning-Expedite	\$178.35		\$168.37
<i>Channel Activation per DS-0 Channel</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$102.65		\$93.05
Provisioning-Expedite	\$151.16		\$137.33
<i>Signalling Transfer Point (STP) Port</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$94.59		\$88.92
Central Office Wiring-Expedite	\$135.31		\$127.19
Provisioning	\$738.87		\$701.31
Provisioning-Expedite	\$924.09		\$876.86
<i>AIN Activation</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
<i>Query Back Charge</i>			
Service Order	\$15.38		\$14.36
Service Order-Expedite			\$22.29

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	RD
A	B	C	D
<u>NRCs (Continued From Previous Page)</u>			
<i>Manual Intervention Surcharge</i>			
Manual Surcharge-Loop	\$28.26		\$26.39
Manual Surcharge-Loop Expedite	\$43.86		\$40.96
Manual Surcharge-Digital	\$30.95		\$28.90
Manual Surcharge-Digital Expedite	\$48.04		\$44.86
Manual Surcharge-Special	\$73.82		\$68.93
Manual Surcharge-Special Expedite	\$114.58		\$106.99
Manual Surcharge-UNE Platform	\$12.76		\$11.92
Manual Surcharge-UNE Platform Expedite	\$19.81		\$18.50
<i>Misdirected Troubles</i>			
Misdirected Troubles In	\$46.33		\$43.26
Misdirected Troubles In-Expedite	\$67.87		\$63.37
Misdirected Troubles Out	\$129.64		\$121.05
Misdirected Troubles Out-Expedite	\$184.89		\$172.64
<i>TC Not Ready</i>			
TC Not Ready	\$77.77		\$72.62
<i>ADSL Conditioning</i>			
Manual Loop Qualification	\$135.49		\$126.51
Manual Loop Qualification Expedite	\$194.50		\$181.61
Engineering Query	\$180.47		\$168.52
Engineering Query Expedite	\$257.95		\$240.86
<i>Installation Dispatch</i>			
Dispatch Initial Loop	\$121.35		\$113.31
Dispatch Initial Loop-Expedite	\$170.92		\$159.59
Dispatch Additional Loop	\$41.22		\$38.49
Dispatch Additional Loop-Expedite	\$58.06		\$54.21
Dispatch Initial T-I	\$157.45		\$147.01
Dispatch Initial T-I-Expedite	\$221.76		\$207.06
Dispatch Additional T-I	\$83.19		\$77.67
Dispatch Additional T-I -Expedite	\$117.16		\$109.40
<i>Other Miscellaneous Non-Recurring Studies</i>			
<i>House and Riser</i>			
House and Riser Inquiry Charge	\$52.22		\$48.63
<i>Line Port Traffic Study</i>			
Set-Up	\$22.51		\$20.99
Weekly Charge	\$9.73		\$9.08
<i>Cooperative Testing</i>			
Cooperative Testing	\$37.15		\$37.15
Cooperative Testing Expedite	\$52.43		\$52.43
Mechanized Loop Qualification	\$0.69		\$0.68

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u> A	<u>Verizon</u> <u>Proposed</u> B	<u>ATT/MCI</u> <u>Proposed</u> C	<u>RD</u> D
<u>NRCs (Continued From Previous Page)</u>			
<i>Customer Specified Signalling</i>			
<i>S-wire CSS Loop-Initial</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$43.23		\$40.36
Central Office Wiring-Expedite	\$61.83		\$57.73
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$161.05		\$150.38
Field Installation-Expedite	\$226.84		\$211.80
<i>P-wire CSS Loop-Additional</i>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$23.83		\$22.25
Central Office Wiring-Expedite	\$34.09		\$31.83
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$88.59		\$82.72
Field Installation-Expedite	\$124.78		\$116.51
<i>I-wire CSS Loop-Initial</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90
Central Office Wiring	\$49.00		\$45.75
Central Office Wiring-Expedite	\$70.08		\$65.44
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$185.39		\$173.10
Field Installation-Expedite	\$261.11		\$243.80
<i>4-wire CSS Loop-Additional</i>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$33.64		\$31.41
Central Office Wiring-Expedite	\$48.12		\$44.93
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$106.29		\$99.25
Field Installation-Expedite	\$149.71		\$139.79
<i>IDLC Loops</i>			
<i>2-wire IDLC Loops New-Initial</i>			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.90

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

Element/Nonrecurring Charge	Verizon Proposed	ATT/MCI Proposed	RD
A	B	C	D
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$4.86		\$4.54
Provisioning-Expedite	\$6.82		\$6.37
Field Installation	\$121.35		\$113.31
Field Installation-Expedite	\$170.92		\$159.59
2-wire IDLC Loops New-Additional			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$4.86		\$4.52
Provisioning-Expedite	\$6.82		\$5.96
Field Installation	\$41.22		\$41.22
Field Installation-Expedite	\$58.06		\$50.72
Cwire IDLC Loops New-Initial			
Service Order	\$9.59		\$8.95
Service Order-Expedite	\$14.88		\$13.04
Central Office Wiring	\$0.00		\$4.54
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$4.86		\$4.54
Provisioning-Expedite	\$6.82		\$5.98
Field Installation	\$157.45		\$147.01
Field Installation-Expedite	\$221.76		\$194.23
#-wire IDLC Loops New-Additional			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$4.86		\$4.54
Provisioning-Expedite	\$6.82		\$6.37
Field Installation	\$83.19		\$72.86
Field Installation-Expedite	\$117.16		\$102.62

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
<u>NRCs (Continued From Previous Page)</u>			
<i>Dark Fiber</i>			
Service Order	\$73.82		\$68.93
Service Date Change Charge	\$15.38		\$14.36
Service Delivery Engineer (SDE)-47TA 1st 1/2 hour	\$28.11		\$28.11
Service Delivery Engineer (SDE)-47TA each 114 hour	\$14.06		\$14.06
Network Transport Engineer (NTE)-3170 1 st 1/2 hour	\$29.54		\$29.54
Network Transport Engineer (NTE)-3170 ea. 1/4 hour	\$14.77		\$14.77
Network Transport Engineer (NTE)-3210 1st 1/2 hour	\$29.63		\$29.63
Network Transport Engineer (NTE)-3210 ea. 1/4 hour	\$14.82		\$14.82
Outside Plant Operations (Splicing) 4220 1st 1/2 hour	\$20.89		\$20.89
Outside Plant Operations (Splicing) 4220 ea 1/4 hour	\$10.44		\$10.44
Central Office Frame (COF)-4350 1st 1/2 hour	\$23.69		\$23.69
Central Office Frame (COF)-4350 each 114 hour	\$11.85		\$11.85
<i>Subloop Unbundling</i>			
<i>2-wire New Initial</i>			
Service Order	\$9.59		\$8.92
Service Order-Expedite	\$14.88		\$13.94
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$0.27		\$0.12
Provisioning-Expedite	\$0.40		\$0.18
Field Installation	\$94.30		\$87.65
Field Installation-Expedite	\$132.81		\$123.46
<i>2-wire New Additional</i>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$0.27		\$0.12
Provisioning-Expedite	\$0.40		\$0.18
Field Installation	\$34.08		\$87.65
Field Installation-Expedite	\$48.00		\$123.46
<i>I-wire Loop Through Initial</i>			
Service Order	\$9.59		\$8.92
Service Order-Expedite	\$14.88		\$13.94
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$103.38		\$96.07
Provisioning-Expedite	\$153.06		\$143.33
Field Installation	\$111.04		\$104.70
Field Installation-Expedite	\$155.46		\$147.47

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurrma Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
<u>NRCs (Continued From Previous Page)</u>			
<i>2-wire Loop Through Additional</i>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$77.36		\$71.85
Provisioning-Expedite	\$114.53		\$107.20
Field Installation	\$51.33		\$48.40
Field Installation-Expedite	\$71.87		\$68.17
<i>1-wire New initial</i>			
Service Order	\$9.59		\$8.92
Service Order-Expedite	\$14.88		\$13.94
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$112.91		\$104.96
Field Installation-Expedite	\$159.03		\$147.83
<i>4-wire New Additional</i>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$0.27		\$0.25
Provisioning-Expedite	\$0.40		\$0.37
Field Installation	\$58.97		\$54.81
Field Installation-Expedite	\$83.05		\$77.21
<i>1-wire Loop Through Initial</i>			
Service Order	\$9.59		\$8.92
Service Order-Expedite	\$14.88		\$13.94
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$103.80		\$96.46
Provisioning-Expedite	\$153.68		\$143.91
Field Installation	\$115.24		\$107.12
Field Installation-Expedite	\$162.31		\$150.89

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	Verizon <u>Proposed</u>	ATT/MCI <u>Proposed</u>	<u>RD</u>
A	B	C	D
<u>NRcs (Continued From Previous Page)</u>			
<u>4-wire Loop Through Additional</u>			
Service Order	\$0.00		\$0.00
Service Order-Expedite	\$0.00		\$0.00
Central Office Wiring	\$0.00		\$0.00
Central Office Wiring-Expedite	\$0.00		\$0.00
Provisioning	\$91.11		\$84.65
Provisioning-Expedite	\$134.90		\$126.29
Field Installation	\$51.74		\$48.10
Field Installation-Expedite	\$72.88		\$67.75
<u>NID to NID</u>			
Service Order	\$9.59		\$8.95
Initial 1/2 hour	\$56.45		\$52.71
Initial 1/2 hour Expedite	\$79.51		\$74.24
Additional 1/4 hour	\$10.13		\$9.47
Additional 1/4 hour Expedite	\$14.28		\$13.33
<u>Signalling System 7</u>			
<u>SS7 Signaling Modifications per STP Pair</u>			
Re-Home "D- Link'	\$247.90		\$231.47
"A-Link" to "D-Link" Conversion	\$185.92		\$173.60
Change in Hub Providers	\$123.95		\$115.73
<u>STP Tranlations for SS7 Features</u>			
<u>A-LINKS</u>			
Program translations for Basic Set-up less ISUP	\$75.27		\$71.56
Program A-Link translations for ISUP and TCAP	\$61.77		\$58.70
Translations for 800 DB/LIDB, CLASS Features, Calling Name,			
AIN DB Query Access Queries	\$67.52		\$64.33
Program A-Link for CLEC to CLEC EO access	\$61.77		\$58.70
<u>STP Tranlations for SS7 Features</u>			
<u>D-LINKS</u>			
Program translations for Basic Set-up less ISUP	\$46.34		\$43.95
Program translations with ISUP and TCAP.	\$46.34		\$43.95
Translations for 800 DB/LIDB, CLASS Features, Calling Name,			
AIN DB Query Access Queries	\$54.09		\$51.19
Program for CLEC to CLEC end office access	\$46.34		\$43.95
Subsequent Connections to BA Pr/orig pt code	\$61.97		\$57.87
NPA-NXX (for CLASS Features only) per 10 (ten) originating			
NPA/NXX input to STP Table	\$30.99		\$28.93
End Office translations (CLASS Features only) per BA end office			
switch & originating pt code	\$10.51		\$9.84

VERIZON NEW YORK, INC.
Summary of Proposed and Recommended Rates

<u>Element/Nonrecurring Charge</u>	<u>Verizon Proposed</u>	<u>ATT/MCI Proposed</u>	<u>RD</u>
A	B	C	D
<u>NRCs (Continued From Previous Page)</u>			
<i>ESAC-Testing Setup Per CLEC Switch Type</i>			
MTP: Levels 2&3	\$578.43		\$540.09
ISUP	\$578.43		\$540.09
800 DB Queries, CLASS, Calling Name	\$72.30		\$67.51
<i>ESAC-Testing Per CLEC Switch Type</i>			
MTP: Levels 2& 3	\$903.45		\$843.57
ISUP	\$1,355.18		\$1,265.35
800 DB Queries	\$112.93		\$105.45
LIDB Queries, CLASS Features, Calling Name	\$56.47		\$52.72

VERIZON NEW YORK INC .

Summary of Recommended Adjustments
To Verizon's Cost Studies

ANNUAL COST FACTORS (ACF)

1. Correct Workpaper Part H Section 2.2 Page 3 of 34, Line 15, "Total Digital Circuit ACF, Columns D to K to include Line 14, "Marketing and Other Support."
2. Increase the productivity factors for maintenance and non-network related expenses from 2% and 10%, respectively, to 3% and 12%.
3. Bell Atlantic/GTE merger expense savings are to be submitted in Verizon's Brief on Exceptions and should be reflected in Workpaper Part H, Section 3.15 with Bell Atlantic/NYNEX merger expense savings.
4. Increase the Forward Looking to Current Factor (FLC) from 70% to 75%, which reduces the ACF's the FLC is applied to.
5. Reduce "M" dollars in the Outside Plant Network ACF calculations by 30%.
6. Increase the 10% new estimate for repeat repairs considered in the of copper repair adjustment factor (CRAF) in the Network ACF calculations to 25%.
7. Disallow 85% of advertising expenses considered in the Wholesale Marketing ACF calculation.
8. Remove the Special Pension Enhancement (SPE) factor from the Common Overhead ACF.
9. Y2K expenses should be eliminated from the Common Overhead ACF by reducing the Information Management Expenses reflected on line 1 of Workpaper, Part H, Section 3.14.10.
10. Revise the Depreciation ACFs to reflect the rates adopted in Opinion No. 97-2.

VERIZON NEW YORK INC.
Summary of Recommended Adjustments
To Verizon's Cost Studies

11. Adjust the Return, Interest and Federal Income Taxes ACF's to reflect the following cost of capital.

	%	cost	Rate of Return
Debt	35%	7.4%	2.6%
Equity	65%	12.2%	7.9%
Total	<u>100%</u>		<u>10.5%</u>

LOOPS

1. Increase the concentration ratio of Remote Terminals (RT) to Central Office Terminals (COT) from 3:1 to 4:1.
2. Base the cost per loop on ultimate versus current demand by using the average net present value of demand over a 10-year period assuming growth at 3% per year.
3. Adjust the fill factors as follows:
 - a Increase distribution from 40% to 50%.
 - b Increase RT Electronics from 84% to 88%.
 - c Increase by 15% in each zone for RT enclosures and COT.
 - d Increase innerduct from 40% to 66.7%.
4. Decrease the Land and Buildings loading factor by 2.5%.¹
5. Reduce the installed cost of poles by 10%.

House and Riser Cable

1. Increase the fill factor from 40% to 60%.

Switching Costs

1. Decrease the cost of end office switch material from \$128 per access line to \$105.

¹ In addition to loops, this adjustment impacts all other unbundled network elements that consider the land and building factor.

VERIZON NEW YORK INC.

Summary of Recommended Adjustments

To Verizon's Cost Studies

2. Reduce tandem switch material costs by the percentage reduction to end office switch material resulting from adjustment 1 (17%) plus an additional 10%.
3. Decrease the Engineer, Furnish and Install (EF&I) loading factor for digital switches from 43.5% to 30%.
4. Spread the total cost of the switch over 308 days versus 251.
5. Allocate total switch costs between usage and ports as recommended.
6. Revise costs for local switching, rates for Meetpoint A and B reciprocal compensation, tandem transient service rates and UCTC rates.*

Interoffice Transport

1. Reduce the fill factor for Dedicated Transport from 75% to 80%.
2. For Shared Transport, use a weighted-average distance of 12 miles between wire centers.

Digital Subscriber Loops (DSL)

1. Decrease the proposed Loop Qualification Charge by 25% (in addition to the impacts of other recommendations impacting Verizon's DSL cost study).

Line Sharing

1. Adjust the demand assumed for Wide Band Testing (WTS) halfway between zero and Verizon's original proposal.
2. Eliminate charges from applying marketing and other support ACFs for Splitters.

² Staff could not calculate the statewide costs with the data on the record. Thus, Verizon should provide with its Brief on Exceptions.

VERIZON NEW YORK INC.

Summary of Recommended Adjustments
To Verizon's Cost Studies

3. Set Service Access Connection (SAC) charges based on 165 feet of cable for each.

Non Recurring Charges (NRC)

1. Adjust the fallout percentage of orders that cannot be processed electronically contemplated by Verizon's study to 2% to reflect efficiency resulting from the use of its Operation Support System (OSS).

Collocation

1. Disallow 10% of cageless collocation security costs.

VERIZON NEW YORK INC.**How Recommended Adjustments Are
Applied To Verizon's Cost Studies**

Note - Staff will provide a CD-ROM to all requesting parties that fully links all of Verizon's updated exhibits, workpapers and models as well as and reflects the following adjustments. Please contact Charles Reubens of Staff if you would like a copy of the CD-ROM. His telephone number is 518-474-8053. There is a proprietary and non-proprietary version of the CD-ROM. Only parties that have signed the protective order may obtain the proprietary version.

ANNUAL COST FACTORS (ACF)

1. **Adjustment** - Correct workpaper part H section 2.2 page 3 of 34, line 15, "Total Digital Circuit ACF, columns D to K to include line 14, "Marketing and Other Support."

Application - The formulas in the applicable cells of the spreadsheet is corrected.

2. **Adjustment** - Increase the productivity factors for maintenance and non-network related expenses from 2% and 10%, respectively, to 3% and 12%.

Application - The revised factors are reflected on line 1 of sections 3.9 and 3.10 of workpaper, part H.

3. **Adjustment** - Bell Atlantic/GTE merger expense savings are to be submitted in Verizon's Brief on Exceptions and should be reflected in workpaper part H, section 3.15 with Bell Atlantic/NYNEX merger expense savings.

4. **Adjustment** - Increase the Forward Looking to Current Factor (FLC) from 70% to 75%, which decreases the ACFs the FLC is applied to.

Application - The revised factor is reflected on line 6 of exhibit, part H, section 3, page 1.

VERIZON NEW YORK INC.

How Recommended Adjustments Are
Applied To Verizon's Cost Studies

5. **Adjustment** - Reduce "M" dollars in the Outside Plant Network ACF calculations by 30%.

Application - The following amounts in the Part Workpapers were reduced by 30%.

Section 2.1

Line 1 on pages 14, 16, 18, 20, 22, 24, 26, 28, 30 & 32.

Section 2.2

Lines 35*, 38, 41, 47 & 50 on pages 24 & 25.

Lines 55, 58, 61, 64, 67, 70, 73 and 76.

* A special adjustment was made to consider pole revenues.

6. **Adjustment** - Increase the 10% new estimate for repeat repairs considered in the of copper repair adjustment factor (CRAF) in the Network ACF calculations to 25%.

Application - The change is reflected on line of workpaper part H, section 3.7.

7. **Adjustment** - Disallow 85% of advertising expenses considered in the Wholesale Marketing ACF calculation.

Application - Lines 590 to 597 of workpaper part H, section 3.12.1, page 4 were reduced by 85%.

8. **Adjustment** - Remove the Special Pension Enhancement (SPE) factor from the Common Overhead ACF.

Application - The SPE loading factor on line 2, column D of workpaper part H, sections 3.11 and 3.12, page 1 was eliminated.

VERIZON NEW YORK INC.How Recommended Adjustments Are
Applied To Verizon's Cost Studies

9. **Adjustment** - Y2K expenses should be eliminated from Information Management Expenses in the Common Overhead.

Application - Not reflected. Verizon is to provide the amount in its Brief on Exceptions, which should be reflected by reducing the amount on line 1, column D of workpaper, part H, section 3.14.10.

10. **Adjustment** - Revise the Depreciation ACFs to reflect the rates adopted in Opinion No. 97-2.

Application - The depreciation lives and future net salvage percentages used by Staff to derive the rates adopted in that Opinion are reflected on lines 11-25 of workpaper, part H, section 2.3, page 1.

To reflect the impact on the Other Support ACF, Staff obtained the "Support Capital Cost Model" and reflected the Opinion 97-2 lives and net salvage percentages in the "Input Values" section. The results of that model are linked to the "Capital Factors" reflected on lines 1-12 of workpaper, part H, section 3.14.2.

11. **Adjustment** - Adjust the Return, Interest and Federal Income Taxes ACF's to reflect the following cost of capital.

	%	<u>cost</u>	<u>Rate of Return</u>
Debt	35%	7.4%	2.6%
Equity	<u>65%</u>	12.2%	<u>7.9%</u>
Total	<u>100%</u>		<u>10.5%</u>

Application - The cost of capital factors in the chart are reflected on line 1, column D of workpaper part H, section 3.3. The workpapers detailing their calculation are in the "part L" folder on the CD-ROM.

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LOOPS

1. **Adjustment** - Increase the concentration ratio of Remote Terminals (RT) to Central Office Terminals (COT) from 3:1 to 4:1.

Application - The amounts in the "CKT/Card" column of page 155 of workpaper, part A-1, sections 1-4, "COT Prices" were divided by three and then multiplied by four.

2. **Adjustment** - Base the cost per loop on ultimate versus current demand by using the average net present value of demand over a 10-year period assuming growth at 3% per year.

Application - This adjustment is reflected in the "Monthly Cost Summary" sheet of the Link Cost Calculator (workpaper part A-1, sections 1-4) in cells G70 to 093.

3. Adjust the fill factors.

a **Adjustment** - Increase distribution from 40% to 50%.

Application - This change is reflected in column C of lines 181-186 of workpaper, part A-1, sections 1-4, "Copper Distribution Investments" as well as line 11 workpaper Part ABP, page 2 for Wideband Testing.

b **Adjustment** - Increase RT Electronics from 84% to 88%.

Application - This changes is reflected on lines 1-242, column 214 of the "Feeder Route Data" tab of the Link Cost Calculator, which is pages 114, 134 and 192 of workpaper A-1, sections 1-4.

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- c Adjustment** - Increase by 15% in each zone for RT enclosures and COT.

Application - This amounts reflected on all lines of columns 156, 160, 164, 168, 172, 176, 180, 184, 188, 192, 196, 200 and 204 in "Feeder Route Data" tab of the Link Cost Calculator were increased by 15%. This information is reflected on pages 108-113 of workpaper A-1, sections 1-4.

- d Adjustment** - Increase innerduct from 40% to 66.7%.

Application - This changes is by changing the 60% line 2, column C on page 93 of workpaper A-1, sections 1-4, "Structure Costs".

4. **Adjustment** - Decrease the Land and Buildings loading factor by 2.5%.¹

Application - The amounts in column d of exhibit, part H, section 1, lines 1-8 were multiplied by 97.5%.

5. **Adjustment** - Reduce the installed cost of poles by 10%.

Application - This changes is reflected by multiplying the amount in cell 4P in the "Investment by Feeder Route" tab of the Link Cost Calculator provided for workpaper part A-1, sections 1-4. It does not appear Cell 4P is included with exhibits on the record.

¹ In addition to loops, this adjustment impacts all other unbundled network elements that consider the land and building factor.

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How Recommended Adjustments Are
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House and Riser Cable

1. **Adjustment** - Increase the fill factor from 40% to 60%.

Application - Changing the utilization factor reflected on lines 4 & 16 of pages 1, 3 and 5 as well as lines 26 & 41 of pages 2, 4 and 6 of workpaper, part A-2, section 1.

Switching Costs

1. **Adjustment** - Decrease the cost of switch material from \$127 per access line to \$105.

Application - The total local switch investment on line 23 of workpaper part B-2, section 4, page 1, line 23 was changed to equal the product of \$105 per line and the number of lines per switch from workpaper part B-2, section 4, page 2, line 12.

2. **Adjustment** - Reduce tandem switch material costs by the percentage reduction to end office switch material resulting from adjustment 1 (17%) plus an additional 10%.

Application - The blended tandem total non-traffic sensitive (NTS) and total traffic sensitive (TS) investments shown on lines 9 and 10 of workpaper part B-2, section 5, page 1 were multiplied by one minus the sum of the switch material adjustment (17%) plus an additional 10%.

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3. **Adjustment** - Decrease the Engineer, Furnish and Install (EF&I) costs to reflect decrease in loading factor for digital switches from **43.5%** to **30%**.

Application-Exhibit part H, section 1, page 1, line 17 was revised to **30%**. The factor was applied to the traffic sensitive material investments on workpaper B-2, section 2 pages 1 and 2 as follows. The traffic sensitive material investments from Verizon's 10-19-00 filing were divided by the busy hour minutes of use. The resultant material investment per busy hour minute of use was multiplied by the revised 30% digital switch EF&I factor in order to produce an installation cost per busy hour minute of use. This installation cost per busy hour minute of use was then added to the quotient of the RD's traffic sensitive material investment divided by the busy hour minutes of use. Similarly, the factor was applied to the non-traffic sensitive material investments on workpaper B-1, sections 1 and 2, pages 1, 2 and 3 as follows. The non-traffic sensitive material investments from Verizon's October 19, 2000 filing were divided by the appropriate line utilization adjustment factors. The resultant monthly material investment per port was multiplied by the revised **30%** digital switch EF&I factor to produce a monthly installation cost per port. This installation cost per port was then added to the quotient of the RD's non-traffic sensitive investment divided by the appropriate line utilization adjustment factor.

4. **Adjustment** - Spread the total cost of the switch over **308** days versus **251**.

Application - The number of average business days on line 4 of workpaper part B-3, section 3, page 2 was changed from 251 to 308.

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5. **Adjustment** - Allocate total switch costs between usage and ports as recommended.

Application - The non traffic sensitive local switch investments on line 24 of workpaper part B-2, section 4, page 1, equal the product of multiplying the revised total local switch investments on line 23 by 66%. The traffic sensitive switch investments on line 25 equal the line 23 total switch investments less non-traffic sensitive investments on line 24.

6. **Adjustment** - Remove RTU costs from usage sensitive end office switching charges and add to the non-traffic sensitive port charges.

Application - The annual total RTU cost per switch on workpaper part B-2, section 6, page 1, was divided by the statewide average number of lines per end office. The statewide average number of lines per end office was determined by using the number of links per density zone from workpaper part A-1, section 8.1 page 2 to weight the number of lines per model end office shown on workpaper part B-2, section 4, page 2, line 12. A monthly total RTU cost per line was calculated by dividing the annual total RTU cost per switch by the product of 12 and the statewide average number of lines per switch. The annual RTU costs per busy hour minutes of use on line 19 of workpaper part B-2, section 1, page 1, were changed to zero. The monthly total RTU costs per line was added to the total TELRIC monthly cost shown on line 19 of workpaper part B-1, section 1, pages 1-3 and line 19 of workpaper part B-1, section 2, pages 1-3.

6. **Adjustment** - Revise statewide costs for local switching, rates for Meetpoint A and B reciprocal compensation, tandem transient service rates and UCTC rates proposed in exhibit part K.

Application - Staff could not calculate the statewide costs with the data on the record. Thus, Verizon should provide with its Brief on Exceptions.

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Interoffice Transport

1. **Adjustment** - Reduce the fill factor for Dedicated Transport from 75% to 80%.

Application - The change is reflected on:

- a Lines 357-368 except 361 on page 8 of workpaper, part C-1, section 1.
- b Line 16 of page 1 and line 6 of page 3 of workpaper, part c-4, section 2.

2. **Adjustment** - For Shared Transport, use a weighted-average distance of 12 miles between wire centers versus 33.4 miles.

Application - This change is reflected on Line 19 of workpaper, part B-2, section 3, pages 1 and 2.

Digital Subscriber Loops (DSL)

1. **Adjustment** - Decrease the proposed Loop Qualification Charge by 25% (in addition to the impacts of other recommendations impacting Verizon's DSL cost study).

Application - The amounts in lines 1-6, column c & d of exhibit part M, section 1 are reduced 25%.

Line Sharing

1. **Adjustment** - Adjust the demand assumed for Wide Band Testing (WTS) halfway between zero and Verizon's original proposal.

Application - The derivation of this adjustment is reflected on lines 12-15 of workpaper Part AB, page 5P, which is included in part a-1 on the CD-ROM.

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2. **Adjustment** - Eliminate charges from applying marketing and other support ACFs for Splitters.

Application - The ACF on line 9 workpaper part N, section 1, page 2 only reflects the network ACF.

3. **Adjustment** - Set Service Access Connection (SAC) charges based on 165 feet of cable for each.

Application - Staff could not reflect this adjustment because exhibit part N, section contains data referenced to Opinion No. 99-4, Appendix B that Staff cannot trace to that source. Verizon should explain the discrepancy in its Brief on Exceptions.

Other Non Recurring Charges (NRC)

1. **Adjustment** - Adjust the fallout percentage of orders that cannot be processed electronically contemplated by Verizon's study to 2% to reflect efficiency resulting from the use of its Operation Support System (OSS).

Application - The percentages in column D in the "RCMAC" and "MLAC" sections of tabs 1-40 of the wholesale NRC model submitted with the Part G workpapers were adjusted so when column C is multiplied by column D a 2% fallout rate results. The adjustment is also reflected with the NRC model submitted with Part 3.7. Staff could not determine if the adjustment is applicable to the NRCs for IDLC, CCS and cooperative testing because Verizon's workpapers did not include the complete NRC model for those items. Verizon should submit the complete models to Staff and any other part that requests them.

Collocation

1. **Adjustment** - Disallow 10% of cageless collocation security costs.

Application - Line 1, column of exhibit part AF was reduced 90%.